JUL 18 1927

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THE JOURNAL

OF THE

American Medical Association

Annual Subscription, $5.00 | PUBLISHED WEEKLY | Single Copies, 20 Cents

VOLUME 89, No. 3 | 535 North Dearborn Street, CHICAGO, ILL. | JULY 16, 1927

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Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Ill., under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on June 14, 1918. If undeliverable, return postage is guaranteed

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NEXT ANNUAL SESSION, MINNEAPOLIS, MINN., 1928

S

Bulletin

"Nothing can supply the place of books."
—*Channing.*

Ready—Ford's Bacteriology

The work presents a definite study of those microorganisms commonly encountered in medicine, comparative pathology, hygiene and public health.

It is divided into six parts: Part I treats of general bacteriology, discussing the historical aspect, morphology, bacterioscopic methods and technic, vital activities of bacteria, cultivation and media, and their destruction. Part II is concerned with systematic bacteriology. Part III, distribution of bacteria. Part IV, in a chapter of 100 pages, covers infection and immunity, and includes, among other subjects, the principles of infection, mixed infections, infection before birth, natural and acquired immunity, phagocytosis, opsonins and bacteriotropins, toxins and antitoxins, the bacteriophage. Part V is devoted entirely to the spirochetes, while Part VI discusser infectious micro-organisms of undetermined character

Dr. Ford has selected his material, not from the literature, but from his own observations of clinical cases, autopsies, intestinal contents in health and in disease, samples of soil, water, milk and food.

The anaerobic bacteria and the principal aerobic spore-bearing species are discussed at length because of their importance to the physician and the hygienist. The illustrations are carefully made free-hand drawings, under magnification, giving details of structure which are impossible to obtain with photographs.

By WILLIAM W. FORD, M.D., Professor of Bacteriology, School of Hygiene and Public Health, Johns Hopkins University. Octavo of 1069 pages, illustrated. Cloth, $8.50 net

Other SAUNDERS BOOKS on Pages 3, 4, 5

SUBJECT INDEX TO THIS ISSUE

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The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

Vol. 89, No. 3 — Chicago, Illinois — July 16, 1927

THE TREND OF SURGERY*

J. TATE MASON, M.D.

SEATTLE

Progress is the watchword of science. It would be stimulating to sketch the splendid developments in surgery during the past generations, the observations that transformed the science of surgery from a series of barbarous and hazardous experiments on suffering humanity to a comparatively safe and reliable method of overcoming disease and restoring health; but I shall confine what I have to say to a few observations based largely on my own experience. One cannot look back without a sense of pride and satisfaction to what has been accomplished during the past quarter of a century.

Speculation as to the future and occasionally the outlining of changes for the betterment of conditions as a whole are especially needed in the field of surgery where, many times, an operation is the ultimate effort on the part of the patient and surgeon to remedy a condition that has baffled other branches of medicine. Since it is impossible now for any individual to master all the branches of medicine, it has been necessary to receive guidance and advice from the pathologist, the biochemist, the neurologist, the endocrinologist, the internist and others. From the reports and advice of these groups of men, the surgeon must formulate his plans and finally carry them into completion in each case.

COMMON SURGICAL SENSE

From the well equipped roentgen-ray, clinical and pathologic laboratories which are at the disposal of the practitioner come many reports whose interpretation may indicate a probable diagnosis. This wealth of information may occasionally be confusing. The surgeon of the future should not lose, with all these advantages, the use of his own special senses. The seeing of an hysterical patient, the feeling of the hot, trembling hand of an exophthalmic goiter patient, the noting of the sound of the peristaltic wave of the small intestine, or the odor of the typhoid and the diphtheritic patient, the recognition by taste of certain narcotics are diagnostically characteristic. It is to be hoped that the surgeon of the future will not lose the power to gain information by the use of his own senses. Let him keep his own special primitive detective forces at work no matter how many other gatherers of scientific data he may have at work for him.

TRAINING THE YOUNGER MAN

Up to ten years ago a majority of the younger men received the major part of their surgical experience at the expense of the patient. Positions as assistants to men of recognized ability were scarce as compared with the number of applicants. This condition of affairs has changed, and in many places a young man receives enough to live on during his training. If progress in surgery and surgical diagnosis is to continue, it must become the duty of every active surgeon to train regularly a few men and to see that, during this period of training, the younger man is cared for financially. When a poorly trained man appears in our midst it is probable that he is less to blame than the older and better trained surgeons who should have seen that he was properly trained before allowing him to set out for himself. It is sad to read at times that one of the great leaders of surgery has passed on, and shocking to realize that this man, who meant so much to his immediate community and the state at large, has left no one to carry on his work.

THE GENERAL PRACTITIONER AND SOME EMERGENCY CASES

There are emergency conditions, such as appendicitis, strangulated hernia and ruptured peptic ulcer, in which the element of time is of utmost importance. In some sections of the country where distances are great, a number of unfortunate persons pay the extreme penalty each year because of their remoteness from competent surgical help. Consequently, the education and training of the general practitioner whose duty it is to look after these isolated communities should be such as to prepare him to handle such emergency cases alone if necessary. Intensive study should be given by him to the conditions which he is most likely to be called on to combat. Occasionally a physician witnesses a long and complicated operation which is a complete waste of his time and patience, as he never expects to perform such an operation. He would be much more benefited by a short and intensive course in the most common ways to handle emergency cases with what facilities he has at his command. A kitchen table or a small obstetric hospital may be his operating theater. Such qualifications of the general practitioner, plus an understanding of his limitations, would save many from death each year and would eliminate much pain and suffering and save many weeks of hospitalization for patients.

Many practitioners are so situated that they have to brave severe weather conditions and bad roads in attending to the details of a general practice. In spite of the constant grind they have equipped themselves to perform emergency operations when absolutely necessary. The number of men so qualified is con-

* Chairman's address, read before the Section on Surgery, General and Abdominal, at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

stantly increasing, and they certainly deserve all the credit that has ever been given to any medical man for services rendered.

SURGICAL FADS

Fads in surgery must be shunned like the streptococcus. Every new idea is worth consideration as important, but it should be taken up with care and caution. Most can await adoption until they have been tested by men of recognized ability. Surgeons should not rush to adopt everything new because of its newness but should await such conservative tests as are applied in internal medicine when a new drug is offered for investigation. Some authoritative surgical body should be requested each year to discuss the merits and demerits of new and old surgical technics which are offered the profession. By this, I do not mean to suggest that a surgical council should be established, as that does not seem necessary at present. But such information coming from a body of men well recognized as surgical leaders would help to standardize the work and to clarify the ideas of men unable to take the time needed to investigate and cull the wheat of fact from the chaff of fiction which appears in the medical literature.

RECOGNIZING LIMITATIONS

That there exist varying degrees of qualifications and limitations in surgical practice will probably be one of the hardest facts that we shall have to recognize in the future. No surgeon does all operations equally well, and while he may do some operations with a brilliance that will far outshine the work of the average man, he may do others with mediocre ability. It is hard to recognize our own limitations or to judge the limitations of others. The more uncompromisingly we criticize ourselves, the nearer we can approach the desired goal of 100 per cent efficiency. The general practitioner in the future should recognize that some men in certain surgical procedures are eminently qualified, while in other procedures they simply are not competent.

SURGICAL JUDGMENT

Surgical judgment is difficult to achieve, but as time goes on this will be improved. Three factors enter in: (1) the better knowledge of the surgeon of today of the chemistry, physiology and pathology of the tissues that are being operated on; (2) a well recognized standard of procedure for a certain class of work, and (3) the qualification and experience of the operator himself. That the surgeon of the future may measure up in self reliance, responsibility and judgment with the surgeon of the past, he must be better trained and thoroughly imbued with the investigative spirit. Patients present a problem to be dealt with from a scientific and a common sense standpoint. When controversies arise in regard to surgical problems, as those now with regard to the surgery of the stomach and duodenum, or peptic ulcer, the surgeon of the future will reserve his opinion until enough time has elapsed and enough cases have been studied to justify him in adopting one method. But until a preponderance of evidence of one side or the other has been definitely placed, the surgeon of the future must follow the method which seems simplest to him and with which he is most familiar. If he will recognize his limitations and do only that which he is best qualified to do, his postoperative results will be better and his percentage of cures far greater than in the past.

THE FAMILY PHYSICIAN

The gradual disappearance of the old family physician who was friend, counselor and adviser of the community in which he resided is certainly to be regretted. He was better educated outside of medicine than the physician of today. His knowledge of the psychology of medicine was often superior to our own. It is true that with the advent of large clinics practically everything of a scientific nature can be done for the patient. The specialization of different branches of medicine and the great advance in different fields of surgery has brought all branches of medicine to a degree of efficiency higher than could have been conceived in the past. Still, it must be remembered that the old doctor's high hat, long coat and friendly smile often created perfect trust and confidence, and his assurance that everything would be all right caused many a disturbed ductless gland to function properly, in a way that no skilful knife or pharmaceutical remedy can ever equal. The passing of the old family physician with the great qualifications admired and respected is the natural result of the demand of the layman for better medicine. The layman's increasing knowledge and understanding of many of the problems of surgery has made the passing necessary. The mass of scientific data has increased so rapidly that student and physician alike soon realized the impossibility of digesting it all, and focused attention on restricted fields of knowledge, neglecting education along nonscientific lines and even on the important subject of psychology. Some persons are instinctively good psychologists. It is a gift, but it can be cultivated. The wonderful man of the past known as the family physician passed on this, his greatest heritage, to us, and it is to be hoped that the physician of tomorrow, no matter how scientific he may be or how accurate his knowledge of the body, will not neglect to acquire the ability to give the patient and those around him a cheerful outlook and confidence and assurance of ultimate recovery.

STATE AND HOSPITAL RESEARCH LABORATORIES

Surgery today is not restricted to the larger centers as it was in the past, but excellent work is done even in the smallest communities. If these men in the smaller places are to continue to forge ahead, they must from time to time have opportunity to discuss the problems of surgery in research laboratories. In the larger centers this is now done. There is an old Chinese proverb which is true today, "To converse with a learned man for one night is better than studying books for ten years." I know one busy man who gives a half day each week to the discussion of his surgical problems with the workers in a research laboratory. This opportunity, although probably not so often as a half day a week, could be obtained easily by all of us if each state would organize a state surgical association allowing all members of the state association interested in surgical problems to contribute toward one centrally located research laboratory. Such a plan would increase the number of men in research work, stimulate the younger men to do better work, and many problems, at present unsolved, could be worked out for the benefit of medicine and mankind.

It has been stated that there are in the United States at the present time about 1,500 men devoting themselves to preclinical research work. With the additional number of workers made possible through such organizations, the establishment of research laboratories in

connection with the better hospitals would soon follow. When the layman appreciates the fact that the surgeon of today, besides his manual skill and knowledge of anatomy, must have a grasp of the subjects of pathology, physiology and biochemistry undreamed of a few years ago, and when he realizes that every patient presents a problem more difficult of solution than those in any other field of science, state laws will be changed to foster research work so that not only men but animal husbandry as well will be benefited by the knowledge gained.

THE SURGEON OF TODAY.

At present there are three types of trained men who are doing most of the surgery in this country. The first, and the one probably most respected by the medical profession, is the one who is associated in some teaching capacity with one of the medical schools. Some of these men are whole-time men and others have a large surgical practice outside their teaching positions. They have attained these positions usually because of scholastic ability, ambition and inclination on their part to teach. The second type of surgeon is one who has had excellent surgical training in some of the medical centers with one or two of the recognized leaders of surgery of this country. The third type of surgeon is the man who has not had any particular training but who, because of a good personality and energetic disposition, builds up a large individual practice. In this practice he begins to do the simpler surgical operations and gradually takes in a larger and larger field as the years go on until eventually his practice is all surgical. Most of the surgeons of this type do not live in the larger centers, but the class of work they are doing is, on an average, as good as any. They are men who recognize their shortcomings. They travel annually from clinic to clinic picking up here and there bits of information, gradually growing in experience, becoming more proficient year by year, until at the age of 50, from the standpoint of experience, judgment and surgical technic, they are giving to their clientele the best obtainable service. These men have reached their position in life, first because they are particularly adapted to the profession which they have chosen and, secondly, because of an ambition to carry on under what they believe to be adverse conditions. In the future they will probably not give to surgery any great discoveries, but they can, and I know that they will, stabilize the best procedures in surgery and continue to do a great volume of work.

These three types of individuals, trained under different circumstances, should in the future appreciate one another and try to accept some of the good qualities that the others have. The most deplorable state of affairs in the surgical ranks is that engendered by the man too well satisfied with himself and the conditions around him. It is a fact in surgery as well as in any other field that one must go forward. To stand still is to go backward. That such a condition is not probable, we are happily aware. The progress which has been more or less continuous for many years and which was never greater than in our time and in our country is our best guarantee that the efforts we make are to be crowned with success. There are doubtless many ills of the flesh which are beyond our skill and may always so remain, but enough has been done to show that humanity has no kindlier and more beneficent aid than that afforded by modern surgery.

1220 Federal Avenue.

RADIOLOGY *

ALBERT SOILAND, M.D.
LOS ANGELES

The word, or caption, "radiology" has been in general use for a great many years as denoting the medical application of roentgen rays, radium and allied agents. Even before radio broadcasting terms came into being and added confusion to the issue, the word "radiology" was employed in European countries as noted. It appears, therefore, that the medical profession has a prior right to the term, and in the absence of a better word to define our specialty an attempt should be made to define radiology properly and also to place a reasonable limitation on its scope.

Next in order would be the adjusting of the rather cumbersome terminology now in vogue by simplifying the words in daily use and eliminating all those which are unnecessary or unwieldy. To this end the several national radiologic societies in America have been asked to cooperate and it is to be hoped that they will respond.

It seems desirable to maintain radiology as a separate entity, and this has been made apparent, first, by the American Medical Association's authorizing a section on this subject, and, secondly, by the creation of the Council on Physical Therapy. This council has already accomplished a great deal toward separating the wheat from the chaff among the heterogeneous maze of physical and technical specialties which exist on a border line of professional respectability. It is apparent, therefore, that physical therapy in all its ramifications must be given time to clarify its own atmosphere before it can eventually emerge free from extrinsic contamination and be properly made a part of recognized scientific medicine and surgery.

The contributions of radiology to medicine and surgery are legion and need scarcely be dwelt on here. The outstanding service of the roentgen ray in diagnosis, however, may be briefly touched on. This has become a fine art, mechanically perfect and scientifically accurate. The illumination of the entire human osseous structure is easily accomplished. The use of opaque meals and mediums, the introduction of dyes and air, permitting visualization of the hollow viscera and interorganic spaces, have revolutionized our conception of normal and pathologic anatomy; and while it appears that we cannot at present expect to reach any higher diagnostic levels, no one has had the temerity to state that the end has been reached or to prophesy what the future may hold in store.

From a therapeutic standpoint, the roentgen ray occupies a unique position. Here the radiologists are confronted with complex problems and enormous responsibilities. There is as yet no reliable standardized measurement of output, no accurate method of dosage and no immediate prospect of a purely mechanical easy procedure. Many theories as to voltage, milliamperage, distance, penetration, filters, and field selection are promulgated and generally accepted, but the ideal amalgamation of all these factors still lies in the future.

It must be obvious that it is of utmost importance for a therapeutic radiologist to be trained in the fundamental medical sciences in order to use intelligently the forces at his command. Just because the short wave

* Chairman's address, read before the Section on Radiology at the Seventy-Eighth Annual Session of the American Medical Association Washington, D. C., May 18, 1927.

roentgen ray did not immediately destroy all deep lying cancer cells, a reverse action for roentgen-ray nihilism should not be set up. We know that in suitable dosage these cells can be destroyed, and perhaps, when eventually all the factors of radiation have been brought down to simple mechanical and mathematical control, the present unstable conditions will be successfully overcome. There is ample reason to feel pleased over the good already accomplished in a large list of pathologic conditions, and it is perhaps not untimely to state that the world has not yet produced a single remedy which has exerted a greater influence on human diseases than the energy of radiation.

With radium, the problem is more simple. Here is a constant, potential, unwavering source of radiation energy simple in form, easily adjusted to existing conditions and readily applied. One great source of disappointment has been with the radiologist himself attempting to accomplish the impossible with this agent, often bringing discredit on himself and unearned criticism on the element radium.

Not a few medical men have attempted radium therapy with a wholly insufficient supply of radium and with even lesser knowledge of the subject. Full publicity should be given such practice in order that it be discouraged and done away with. It would seem reasonable to assume that, with new discoveries of radium-bearing ore, the price should be reduced to a point at which ample quantities of pure radium salt could be available to those qualified to handle it. This would enable the use of massive doses to remote fields and perhaps cause a realization of the dreams of older radiologists, who have long looked forward to homogeneous short-wave radiation. Perhaps an appeal to those men who have apparently cornered the radium ore supply may hasten the attainment of this much desired ideal for humanity's sake.

The new Coolidge tube with its unlimited supply of beta radiation has a significant bearing on the future of radiotherapy. In the few months elapsed since Dr. Coolidge made this announcement, not sufficient time has passed to permit anything but the briefest survey of the situation. Even Dr. Coolidge himself, it is safe to assume, has not yet been able to placard all the phenomena that follow the application of his beta ray discharges under a voltage of 350,000 or more.

It is not difficult to visualize a very important place in therapy for this new arm of radiant energy, but from present indications it must be approached with extreme caution, for it appears to be truly a potential death ray in a limited sphere. On the other hand, it may prove to be a boon to humanity when thoroughly mastered.

Radiation therapy is so inseparably bound up with the cancer problem that a word may be permitted alining this subject with Blair Bell's studies on colloidal lead. In America close students of Dr. Bell's work have by no means approached his results and this also bears out my own experience.

This subject is of such singular importance, however, that it does not seem just to condemn or even discourage the method until further experience has been reported and others have been provided with the same colloidal solution that has proved so satisfactory in the hands of Blair Bell, the creator of this method, and his colleagues.

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PULMONARY EMBOLISM FOLLOWING OXYGEN INJECTION OF A KNEE

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It is almost axiomatic that we learn as much from our mistakes as from our successes. My purpose in this report is to call attention to a case in which an error in the technic of oxygen inflation of a knee joint was followed by pulmonary embolism and cardiovascular failure, and nearly resulted in a catastrophe. I have injected so many joints with oxygen without the slightest untoward result that I had come to the conclusion that the procedure is entirely harmless. During my early experience with pneumarthrosis, I often used too strong a current and injected more of the gas than was necessary, and though I did not deflate the joints I did not see any ill effects. The joint was widely distended and the superfluous gas infiltrated the subcutaneous and intermuscular planes and the muscles themselves. The gas was gradually absorbed, disappearing in from eighteen to seventy-two hours. Thus, because of its apparent harmlessness and because of its proved value I have urged a wider adoption and application of this important test.

Recently I had an experience in a case of pneumarthrosis which sharply brings to the fore the imperative need for observing rigidly every detail of the technic. The injection was performed by a house officer. Unfortunately I was not scrubbed up, so that, while the intern knew the details of the technic and had helped me in another case, I was unable to make certain that every step of the procedure was carried out accurately.

REPORT OF CASE

J. P., a youth, aged 19 years, was admitted to the hospital for an operation on the left knee. Several months previously he fell and fractured the left patella. In our outpatient department an examination disclosed a loose fragment of bone in the knee joint. When he was admitted to the indoor service, it was decided to inject the knee with oxygen to determine the exact location of the loose fragment before opening the joint.

The patient was accordingly taken to the roentgen-ray department and preparations were made for the injection of oxygen. The apparatus consisted of a nearly empty oxygen tank, so that the gas pressure would be low, and a sterile rubber tube and needle about 4 inches long. The knee was painted with iodine and then the needle was inserted at a point opposite the middle of and external to the patellar tendon. It was pushed upward, inward and backward so that its point would be behind the patella and within the joint. When the needle was inserted about 2½ inches, it appeared as if the point of the needle ought to be within the joint cavity, and the house officer said he felt the point of the needle moving freely within the joint space. A weak stream of oxygen was turned on. Immediately the patient complained of a peculiar feeling about his heart. As the boy had a nervous temperament, we did not attach sufficient importance to his complaint, and since the joint was not distended the injection was continued. Within several seconds the patient stated that he was dying and became white. The injection, which had not lasted over one-half minute, was stopped.

A hasty examination showed that the patient was pulseless, he was very pale, and the pupils were widely dilated. Stimulants were administered. Within several minutes he was given epinephrine hydrochloride subcutaneously. The heart beat could not be felt or heard and very soon respiration ceased. By this time his face was livid. Artificial respiration was begun and additional stimulants were injected. He received a second dose of epinephrine hydrochloride and caffeine sodiobenzoate subcutaneously, but to no avail. The patient was apparently dead. The artificial respiration was continued, and it was sug-

gested as a last, though not very hopeful, procedure that epinephrine be injected directly into the heart. Hence about 10 minims (0.6 cc.) of 1:1,000 epinephrine hydrochloride was injected directly into the heart through the fourth intercostal space. This injection was made about fifteen or probably twenty minutes after the heart had stopped beating, and at least ten minutes after the patient had stopped breathing and was apparently dead. In about a minute a faint pulse was discovered in the radials. The heart beat gradually improved and color began to return to the face. In about five or ten minutes the patient began to breathe and very soon thereafter the heart action and respiration were of fair quality.

For about a half hour the patient's mouth was filled with an abundant frothy, blood-stained saliva. As the heart action improved, he became restless and moaned. He then began to shout and toss about vigorously. He was entirely unconscious and was so uncontrollable that it took several assistants to restrain him on the examining table. The cerebral and motor excitation became intense, probably as a result of overstimulation. At the end of about two hours after the accident, when it was deemed safe to move him, he was taken to a private room, was placed in a warm pack, and was given sodium bromide by rectum.

During the course of the night he calmed down and on the next day he was in fair physical condition, though entirely disoriented. The improvement continued, and in a few days he became thoroughly conscious and entirely oriented. Finally his mentality returned to normal except that, happily, he had no recollection of the accident. There was at no time any evidence of muscular twitching, paresis or paralysis. The reflexes, when examined on the day after the injection, were normal. On the tenth day he was discharged from the hospital able to walk and looking and feeling well. He was seen recently, ten weeks after the accident, and appeared in excellent condition.

A roentgenogram of the knee taken within an hour of the injection showed that there was no gas in the joint or in any of the periarticular tissues. Roentgenograms of the chest did not reveal any abnormality of the lungs or heart.

COMMENT

This occurrence draws our attention to several errors. The first was in the technic, for after the needle was in the knee, the tube was not disconnected to see whether there was any flow of blood. A return flow of blood would, of course, have indicated that the needle was in a blood vessel and not free in the joint. I remember distinctly asking the house officer whether he felt the point of the needle move about freely within a cavity, and he assured me he did. It was an error on my part not to have been scrubbed up so that I could have been certain about this very important detail. The next error was in continuing the injection of oxygen after the patient complained of discomfort about the heart. Our reason for disregarding the complaint was that the boy was of the hypersensitive type, and since the joint had not been distended, it was believed that the assistant handling the oxygen tank had not yet released any of the gas, and, therefore, the patient had no reason to complain but was simply nervous.

The happenings may be explained as follows: A continuous stream of oxygen was forced into the circulation, and by its volume and suddenness of entry the oxygen distended and occluded the lungs. From the presence of frothy saliva for a long time during the recovery, I believe that the oxygen was intercepted in the lungs and that none of it reached the central nervous system. This is I think substantiated by the fact that there was no muscle twitching, convulsions, motor paralysis or other evidence of immediate invasion of the cerebral motor mechanism. The stream of oxygen forced into the circulation distended the lungs so much that the cardiac action was embarrassed and ceased, and the function of the lungs was interrupted. The injection of the epinephrine into the heart produced such violent contractions of the cardiac muscle that the stream of blood forced into the lungs caused a rupture of the lung tissue allowing the oxygen to escape, and thus released the injurious intrathoracic pressure.

From my own experience and that of others who have injected oxygen into joints, the cerebral ventricles and the spinal canal, we know that oxygen is not harmful to soft tissues, even in very large quantities. We know also that during blood transfusions no harm results from the accidental entry of small quantities of air into the circulation. The injury in this case was, therefore, mechanical in nature.

I have not read any report of a similar case and am recording this experience, not to discourage pneumarthrosis, which in selected cases is very valuable, but to focus attention on the necessity for observing every detail of the technic. One must be sure that the point of the needle is free within the joint. At first a small amount of gas should be injected, and this should cause a distention of some part of the joint, indicating that the gas is entering the joint and nowhere else. If the joint is not distended the injection should be stopped, the needle manipulated, inserted farther, retracted, or pushed in another direction until one is certain of its position. I have found that it is best to insert the needle so that the point is behind the patella; in this situation one is not likely to enter a blood vessel. We expect discomfort in the joint that is being injected because the capsule is distended. Complaint of discomfort elsewhere should be followed immediately by cessation of the injection and investigation.

SUMMARY

In a case of pneumarthrosis, pulmonary embolism and cardiovascular failure immediately followed the accidental injection of oxygen into the circulation. The heart stopped beating first, followed in about five minutes by the cessation of respiration. Artificial respiration was instituted, but for about ten minutes the patient was apparently dead. An injection of epinephrine hydrochloride into the heart revived the patient and prevented what appeared a certain catastrophe. The accident was the result of faulty technic, which is acknowledged in detail, so that it may never happen again. The author in making this report hopes that it will not deter others from using pneumarthrosis, which is an invaluable diagnostic test in doubtful and properly selected cases.

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Toxic Element in Burns.—It is the existence within the body of tissues in a state of chemical dissolution that is evidently the exciting feature of the disturbance — not an organismal decomposition, but a chemical change, and one, moreover, which results in the production of potent toxic elements. . . . It has been suggested that they are closely allied with, if not exactly similar to, histamine or pyridine. Certainly there are many points of similarity between the picture of "histamine shock" and that of the toxic stage of burns. The dangerous character of the toxemia depends on its liability to pick out and deteriorate specialized tissues—the liver cells, the delicate cells of the kidney tubules, and the chromaffin tissue of the suprarenals. The striated heart muscle is poisoned and degenerated, and the lymphoid tissue shows points of focal necrosis. It is not difficult to explain the symptoms and signs which distinguish the early stages of the toxic phase—the rise of temperature, the restlessness, the rapid pulse—each has its pathologic counterpart, but underlying all this, there is some more subtle influence which specifically and definitely deranges metabolic processes.—Fraser, John: *Brit. M. J.*, June 18, 1927.

THE OCULAR FUNDUS IN THE ACUTE TOXEMIAS

AN ANALYSIS OF EIGHT HUNDRED AND FIFTY CASES *

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The manifestations in many general conditions, as revealed by the ocular fundus, have been analyzed as to type and incidence on a comparative basis. These tabulations are of the greatest benefit to the ophthalmologist in aiding the internist and surgeon in diagnosis and prognosis.

The toxemias are treated separately in the literature, although there are certain signs that are common to all. They are all acute infectious processes with many fundamental pathologic similarities. Since the toxemias quickly showed generalized symptoms, it was thought that the eyegrounds might be seen to participate more or less uniformly if a sufficient number of cases of all types were studied. To this end, the eyes of every patient admitted to the medical wards of the Cincinnati General Hospital were examined as a matter of routine. Only the fundus observations in the acute toxemias are considered here. The word "lesion" henceforth will refer only to those of the fundi.

The literature abounds in reports of ocular derangements associated with these diseases. It would be pointless, so far as the purpose of this study is concerned, to compile an extensive survey of them. In this analysis I present certain conditions in the fundi which are not characteristic of any one disease but are common to all, and which occur with sufficient frequency to make them noteworthy.

The type of ocular lesions found in patients in a medical service differ markedly from those found in an eye clinic. Those found in medical patients are apt to be less widespread, and of a more transient character with less destruction to tissue and vision. The conditions encountered in an eye clinic cause ocular symptoms chiefly, such as disturbance of vision or pain, and are usually more widespread, destructive and permanent. Only 3 per cent of the patients examined had any ocular complaint other than the simple statement that they wore glasses.

Fifty-two per cent (440) of the patients presented abnormal fundus conditions which were considered to be dependent on some constitutional condition. Eighty-five per cent (374), or 44 per cent of the 850, were considered to be dependent on the acute toxic processes for which the patients were then being treated. The lesions reported exclude all thought to be due to retinal arteriosclerosis, or renal or diabetic diseases.

After the first seventy-five cases were observed, it was evident that there were certain deviations from the normal occurring with some regularity. They appeared to be dependent on the type and especially the severity of the infection. They changed with the course of the disease, became less marked when the temperature fell and the infection seemed to be subsiding, and advanced when the disease seemed to be progressing. A search of the literature and a limited correspondence failed to reveal reports of similar observations. Sir William Willcox,[1] in a discussion, said that he had recently been interested in the ocular fundus in toxemia. He simply mentioned hemorrhages as one manifestation.

GENERAL MANIFESTATIONS

These manifestations could be grouped into three classes:

1. Toxemias of mild intensity and short course: (*a*) disks normal or slightly hyperemic, with vessels (especially the veins) slightly dilated. Associated chiefly with influenza, acute rhinitis and acute sinusitis of moderate intensity. (*b*) Average temperature 100 F. (*c*) Average duration from four to five days.

2. Toxemias of moderate severity and longer course: (*a*) Disks rather hyperemic, margins occasionally blurred; vessels definitely dilated, and often slightly tortuous. Associated with pneumonia, severe sinusitis, severe acute polyarthritis, typhoid, pyemia, septicemia, encephalitis and meningitis (especially cerebrospinal). (*b*) Average temperature from 102 to 103 F. (*c*) Average duration from one to eight weeks and occasionally death.

3. Toxemias of great severity: (*a*) Disks with margins blurred by edema and vessels quite dilated. Surface of disks often fades insensibly into surrounding retina. White streaks show line of nerve fiber bundles. Occasionally retinal edema; punctate hemorrhages from the finer vessels into the retina. Twice small whitish, retinal areas around or near the disks were seen (retinitis septica of Roth?[2]). Occasionally edema of the disks was seen as a forerunner of a frank optic neuritis (1.5 per cent).

Table 1 shows the numerical distribution of these conditions.

TABLE 1.—*Numerical Distribution of Fundus Changes*

		Class 1	Class 2	Class 3	Total of Each Disease No.	%
Influenza and (grip?)	105	29	..	..	29	16
Acute rhinitis	27	8	..	..	8	33
Sinusitis	145	10	12	13	35	24
Pneumonia	192	9	41	101	151	78
Acute multiple arthritis	46	3	10	12	25	54
Typhoid	26	..	7	4	11	42
Pyemia and septicemia	104	..	30	31	61	57
Encephalitis	125	6	17	11	34	27
Meningitis: 1. Cerebrospinal	22	..	9	7	16	72
2. Pneumococcic	2	..	..	1	1	50
3. Tuberculous	5	..	..	2	2	40
Cholecystitis with jaundice	1	..	..	1	1*	
Total	850	65	126	183	374	

* Percentage in cholecystitis is not significant because the other cases of jaundice were not tabulated. It is regarded in this series as an unusual complication probably due to the same focus causing the cholecystitis.

ANALYSIS OF THE THREE CLASSES

Class 1 (18 per cent, 153): The mild types of the toxemias were, of course, in the minority, because the patients who apply for entrance into a general hospital have usually something more severe than a mild cold or uncomplicated influenza. Thirty per cent (forty-five) of the patients in this class presented changes ranging from slightly to moderately hyperemic disks. Hyperemia was called such only when the disks became less involved as the patient recovered. The fine grade of distinction between a normal and a hyperemic disk calls for a conservative reading. In 1901, von Michel reported two cases of septicemia with hyperemia of the disks which seemed to change during the course of the disease. An examination afterward revealed

* Read before the Section on Ophthalmology at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

1. Willcox, William: Abstr., Arch. Ophth., November, 1925.
2. Roth: Arch. f. Ophth. **55**: 1872; Deutsche Ztschr. f. Chir. **1**: 471, 1873; Handbuch der Augenheilkunde, ed. 3, pp. 976-977.

that both were normal. Terrien and Boudier [3] reported three cases of hyperemia of the disks in three cases of cerebrospinal meningitis.

Class 2 (56 per cent, 476): This type represented the largest class, but the next to the smallest percentage of changes. While changes here were not so striking as those in class 3, they were of sufficient definiteness to entitle them to consideration. Twenty-five per cent (119) of the cases in this group presented changes some time in the course of the disease. These changes consisted of increased capillarity of the disks, and occasional slight blurring of the margins, especially over the upper nasal border. The larger vessels, especially the veins, also had a tendency to become dilated, and, at times, slightly tortuous. Blurred disk margins never occurred in any patient with a temperature under 102 F.

TABLE 2.—*Distributions of Lesions in the Various Diseases*

Simple hyperemia		102
Influenza	13	
Sinusitis	4	
Pneumonia	29	
Multiple arthritis	5	
Encephalitis	19	
Rhinitis	4	
Slight edema with some dilatation of blood vessels		76
Influenza	6	
Sinusitis	24	
Pneumonia	22	
Multiple arthritis	16	
Typhoid	8	
Marked papilledema and retinal edema		40
Pneumonia	20	
Multiple arthritis	8	
Sinusitis	5	
Typhoid	3	
Encephalitis	4	
Edema and retinal hemorrhages (all types)		32
Pneumonia	3	
Multiple arthritis	1	
Pyemia	4	
Typhoid	1	
Meningitis (cerebrospinal)	1	
Encephalitis	2	
Optic neuritis		8
Pneumonia	2	
Septicemia	2	
Acute cholecystitis with jaundice	1	
Encephalitis	2	
Meningitis (tuberculous)	1	
Embolism of central artery		2
Typhoid	1	
Pyemia	1	
Thrombosis of branch of central vein		1
Encephalitis	1	
Massive choroidal exudate		1
Pneumonia	1	
Metastatic choroiditis		2
Encephalitis	1	
Meningitis (tuberculous)	1	
Septic retinitis of Roth?		2
Septicemia	1	
Encephalitis	1	

Hirschberg [4] saw three cases of pneumonia with great hyperemia and slight edema of the disks, which had receded when he examined the patients after recovery. He definitely associated the phenomena with the toxic processes. Von Hippel [5] also reports papilledema in pneumonia, which disappeared after recovery.

Class 3 (26 per cent, 221): In this class are grouped the cases of severe pneumonia, meningitis, severe typhoid, septicemia and sinus diseases. Eighty-five per cent (190) in this group presented changes. One hundred and seventy-eight had various degrees of disk changes, ranging from increased capillarity to optic neuritis. Eighty-six presented a moderate edema of the disks, with slightly blurred margins and dilated vessels. Fourteen of these eighty-six had marked papilledema, which advanced with the progress of the disease and receded as the condition subsided. After recovery, the eyegrounds were entirely normal without sequelae. Thirty-two patients developed retinal hemorrhages. Twenty-six of these were of the finer punctate character, which were apparently from ruptured fine vessels. Table 2 shows the incidence of these lesions. Twenty-two patients in this group presented severe changes of one sort or another. Six developed optic neuritis, which appeared after the inception of the toxemia in each case. All developed the usual picture of visual disturbance and sequelae. Two developed embolism of the central artery; one, thrombosis of a branch of the central vein; one, a metastatic choroidal exudate; two metastatic choroiditis, and two, white retinal areas around the disks (septic retinitis?).

From the foregoing analysis it is evident that the severer types of infection produced the greatest percentage of lesions, both mild and severe. The cases that presented the simplest conditions, such as increased capillarity, slight edema of the disks, and retinal edema, associated with dilatation of the larger vessels (especially the veins), were of greater interest and of more importance than those which presented the severer lesions, such as hemorrhages, areas of degeneration, and neuritis. The former, if present, seemed to present a sort of bird's-eye view of the course of the disease, from which, quite often, could be told the stage and probable severity of the infection. All these signs seemed to be stages of varying degrees of the same process. The degree was usually found associated with the height of the temperature; i. e., the higher the temperature, the more pronounced the manifestations. In cases in which there was very mild involvement, such as uncomplicated influenza or not too severe pneumonia, nothing more than a mild hyperemia or dilatation of the larger vessels occurred. During the influenza epidemic of 1890, a great many ocular complications were reported. These are not to be confused with the changes noted here, for while the former are considered as complications dependent on accidental metastasis or communication, the latter are considered a part of the general reaction, returning to normal as the illness subsides.

In the severer toxemias (class 2), hyperemia was first manifested with dilatation of the greater vessels, and, if the process continued with an increased temperature (above 102 F.), edema of the disks often followed, which increased or subsided with the course of the disease.

The very severe infections, such as are represented in cases of severe pneumonia, encephalitis and meningitis, passed through the first two stages quickly and presented definite papilledema, retinal edema and, in certain instances, retinal hemorrhages and areas of degeneration in the retina. Observers of cases of meningitis differ widely in reports of ocular conditions. Randolph [6] found papilledema in 17 per cent. He also found retinal vein engorgement in nineteen out of thirty-five cases. Batten says that it is rare. Barlow and Lees [7] found three in forty-two cases. Twelmyer [8] reports a case of metastatic ophthalmia in cerebrospinal meningitis. Reports of papilledema and optic neuritis found in encephalitis agree essentially. The British

3. Terrien and Boudier: Arch. f. Ophth. **29**: 301, 1909; **30**: 214, 1910.
4. Hirschberg: Ueber Fieber bei Augenentzündungen, Centralbl. f. prakt. Augenh., 1911, pp. 193-196.
5. Von Hippel: Falle von Stauuangspapille bei Pneumonie, Med. klin., p. 1286.
6. Randolph: Bull. Johns Hopkins Hosp. **4**: 59, 1893.
7. Barlow and Lees, in Allbutt's System of Medicine, **7**: 174, 1910.
8. Twelmyer, O.: Metastatic Ophthalmia, Vereinigung des Augenaerzte Schleisiens und Posens, Breslau, March 4, 1923.

Government Board Report [9] states that papilledema in encephalitis is seen occasionally and optic neuritis exceptionally. Forty-seven patients examined by Moore [10] did not show changes referable to the disease. In the forty-eighth case there was secondary optic atrophy, but its cause was in doubt. I found one case of optic neuritis in 125 cases of encephalitis which was undoubtedly associated with the disease. Its entire course was followed from the beginning, which did not occur until a week after the admission of the patient. This patient died fourteen days after admission. I should like to repeat that such a condition was considered dependent on a secondarily infected optic nerve, while the simple edema is an altogether different affair associated with the general circulatory reaction.

Holden [11] mentions sinusitis as one of the causes of papillitis. Mention is not made of simple papilledema. In one case of severe pansinusitis in which there were acute symptoms of pain, headache and malaise, and a temperature of 103 F., the disks were markedly edematous, the vessels were quite dilated, and there was considerable retinal edema present, as shown by the regular waving of parallel vessels and an increased "watered silk" reflex. Drainage of the sinuses improved the condition, and the ocular signs gradually subsided until, some time after recovery, the eyegrounds were perfectly normal. A similar condition has been noted and discussed by other observers, but it has usually been explained as an isolated phenomenon instead of part of a generalized process. The cases which presented the severest general signs and in which the prognosis was ultimately bad presented the greatest fundus changes. Two cases of pneumonia passed through the ocular stages of hyperemia and edema, with later rupture of the finer capillaries, which produced widespread punctate hemorrhages. One patient passed through the earlier stages and finally developed bilateral optic neuritis. All three of these patients died. Bull [12] reported six cases of retinal hemorrhages in the course of pneumonia but did not record the outcome. Clothier [13] reports a fatal case of typhoid, in which the patient developed optic neuritis. The cases of retinal hemorrhages in the septicemias were in those of the severer variety; i. e., they were of longer duration, and more destruction and graver sequelae ensued. Flemming [14] reports forty-two cases and makes a like assertion. To avoid making this paper lengthy with interminable case reports, tables 1 and 2 have been prepared to show at a glance the incidence of the conditions.

I feel that the majority of these manifestations are due to local dilatation with increased permeability of the blood vessels and exudation into the surrounding tissues. I [15] reported similar conditions associated with serum sickness after the injection of diphtheria antitoxin. In these cases, the manifestations were associated with the increase and subsidence of the reaction, as indicated by the chills and the temperature.

Then, too, is it not true that it is fairly universally accepted that the great internal vascular beds, such as those in the abdomen and lungs, take part in a general dilatation with exudation during these toxemias, especially those in which there are severe symptoms and high temperature? This, with the contraction of the vessels of the skin, tends to hold heat in with a consequent elevation in temperature. Therefore, may not the retinal vessels take part in this general reaction? Their readily accessible position lends them importance, since they are the only vessels of consequence that can be so easily observed without undue manipulation.

The reports of similar conditions in toxemias indicate their probable occurrence but not their frequency or importance. The statistics compiled by different observers are at great variance. This is probably due to the fact that one observer may have examined each case only once and recorded his observations. Another may have examined his series only on consultation because the patients complained of ocular disturbance. The former would tend to report a very small percentage of changes and the latter would see only the very severe changes. These cases must be observed daily throughout the illness if the finer changes are to be noted and a basis for differentiation established of stages and severity of a given disease. Routine ophthalmoscopic examination of patients suffering from general illnesses is again emphasized, for, apparently, changes appear in the commonest diseases with sufficient regularity to make them of definite help in following the course of these diseases.

CONCLUSIONS

1. Ocular fundi in various types of acute toxemias present common changes, depending on the type and severity of the infection.

2. This appears to be a local manifestation of the general reaction.

3. The reactions in the main are simple hyperemia, slight dilatation of the larger vessels, and low grade edema of the disks and surrounding retina, associated with a greater dilatation, depending on the severity of the reaction.

4. There are other changes often seen occurring in the fundi in these diseases, such as retinal hemorrhages, whitish areas of retinal degeneration and occasionally papillitis.

5. The reactions described under 3 were considered to have occurred with sufficient regularity to entitle them to consideration as definite entities in these diseases, and consequently as of practical importance in diagnosis and prognosis.

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ABSTRACT OF DISCUSSION

DR. JAMES P. FITZGERALD, Chicago: Dr. Brown has presented for the first time the results of prolonged and painstaking observations on a series of cases of acute toxemia sufficiently large to permit a reliable correlation of data. The fact that certain features of fundus changes tend to become characteristic in diabetes, renal disease and high blood pressure has unduly limited the clinical application of ophthalmoscopic observations. To the experienced observer, the eyegrounds in meningitis, sinusitis, the pneumonias, and pericarditis are in a sense characteristic, too. The point of emphasis in this study is in the weight of its evidence that the bilateral eye conditions of the type described are the frequent and early and commonly disregarded first signs of systemic infection, and that cyclic variations in the eye picture run parallel to the fluctuating course of the disease. Predictability, with its support to the clinician, becomes possible on this basis. Furthermore, Dr. Brown has disclosed the only method by which ophthalmoscopy can hope to become clinically useful.

From the point of view of internal hospital administration as well Dr. Brown's work is demonstrative.

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Administrative medical schemes in the past have favored team work between general and special services much less than they do at the present time, and the ophthalmologist has not always had facilities for following his cases through. The essential thing about the medical staff is that it shall form a cooperative group. The eye department especially is conceded such independence that it often operates as a special hospital within the general hospital.

The diagnosis of a choked disk in a lesion of the central nervous system brings out the interdependence of departments. A careful metabolism test and chemical examinations of the blood may be the first procedure in the treatment of many eye diseases. But persistent, asthenopic symptoms which might suggest an error in refraction or in muscle balance may vanish after a simple appendix operation, the removal of septic tonsils, or the elimination of other foci of infection.

Either chronic or acute septic and toxic conditions have a marked effect on the eye and are probably responsible for more indirect troubles than we recognize. Teeth, tonsils, bowel toxemias and focal infections generally, participate, and such nonbacterial toxemias as those which occur in pregnancy. Many different organisms are involved and the systemic effects may overshadow the local septic focus.

The eye is an intimate part of the body, not a solitary organ. The eye lesions in acute toxemias are closely dependent on constitutional conditions so grave as to overshadow the local condition.

A STUDY OF EXPERIMENTAL HEAT-STROKE *

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A previous communication [1] presented a statistical study of heat injuries that have occurred in the United States Navy. The clinical aspects of heat injury and the several theories of its etiology, as given by various observers from biblical times until experimental work on the problem began with Claude Bernard, were cited.

In 1858, Claude Bernard [2] produced deaths in birds and mammals by raising their temperatures 4 or 5 degrees C., and showed that, at autopsy, the lesions found were similar to those noted in major heat-stroke. Bernard, in a later communication, considered the cause of death to be due to purely physical causes; i. e., elevation of the blood to such a high temperature. Following this work, in 1872, H. C. Wood [3] described some experimental studies. The conclusions drawn are practically the same as those of Bernard. Wood also noted that "the more violently a muscle is made to contract before subjection to heat, the sooner it becomes paralyzed." The fact that the production of heat and of lactic acid in muscle are both definitely increased by exercise probably had a bearing on this observation.

The formation of lactic acid during muscular contraction has been demonstrated and studied quantitatively by Hill.[4] Physiologists have shown that, in the resting muscle, lactic acid is present in only very slight traces (0.02 per cent), but the amount is greatly increased during contraction or in the processes leading to rigor.[5] Normally, two thirds of the lactic acid formed in the muscle during contraction is reconverted into glycogen. The remainder is oxidized, with the production of heat.[5] This acid is regarded as an intermediary product formed in the course of the chemical reactions constituting the normal metabolism of the muscle. Fletcher and Hopkins [6] have shown that, in heat rigor, a maximum of lactic acid is produced in the muscles (from 0.3 to 0.5 per cent).

Heat production, in the living organism, is brought about by oxidative processes, principally in the muscles. The heat production in the viscera is practically negligible.[7] Heat loss is accomplished by conduction, radiation, and evaporation of moisture from the body surface and from the lungs in the expired air, by introduction of cool fluids and foods, and through the various excreta. These physical processes, in turn, are influenced by the clothing, the temperature, humidity, and velocity of the air currents. It can be seen that, if the physical and environmental factors are altered, the organism must adjust itself physiologically to meet the given conditions. This adjustment is regulated by the so-called thermogenic center. Ott [8] observed that the introduction of a probe into the brain, puncturing the corpus striatum, caused an increase of temperature of the body which lasted for some time. However, lesions of the optic thalamus, septum lucidum, cortex, midbrain, pons and medulla have been stated to produce a general rise of body temperature. Barbour [9] has shown that heating the brain, by a special device, in the region of the corpus striatum produces a fall, and cooling, in this region, produces a rise in the body temperature. These experiments tend to show that there is a regulatory center in the brain which, if injured, produces changes in the body temperature. If such a center does exist, it would be likely that it played a very important part in major heat-stroke.

That the humidity of the air must, in some way, influence the production of heat-stroke is based on clinical observations. The long painstaking research of many observers, especially in obtaining wet and dry bulb temperatures (hygrometry) at the times of the greatest incidence of heat-stroke, have emphasized the fact that heat-stroke occurs in an environment in which the temperature is high with a high relative humidity.[10] Recently Flinn [11] exposed animals to "high dry" temperatures without disastrous results. Observations of Blagden and Fordyce,[12] in 1775, showed that a man in good health could stand, for a period of fifteen minutes, an exposure to a dry atmospheric temperature of 250 F. without feeling any ill effects or a serious rise in body temperature, while a beefsteak exposed at the same time to the same environment was cooked in thirteen minutes.

It is obvious that the body temperature of a mammal need only rise slightly above that registered by the wet bulb thermometer to lose heat to the surrounding

* From the laboratories of the U. S. Naval Medical School.

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9. Barbour, H. G.: Die Wirkung unmittelbarer Erwämung und abkühlung der Wärmezentren auf die Körpertemperatur, Arch. f. exper. path. u. Pharmakol. **70:** 1-26, 1912.
10. Hutchinson, F. H. G.: Heat-Stroke in Allahabad, Indian J. M. Research **14:** 53-100 (July) 1926.
11. Flinn, F. B.: Effects of High Environmental Temperature on the Organism, Pub. Health Rep. **40:** 686-896 (May 1) 1925.
12. Blagden and Fordyce: Phil. Tr., London, pt. 1, **65:** 111-484, 1775.

medium. Thus, in an environment of high temperature with a low relative humidity, the organism is efficiently cooled by rapid loss of moisture to the surrounding medium, while with the temperatures not nearly so high but with high relative humidity, the temperature (wet bulb reading) above which the organism must rise to lose heat to the surrounding air is such that great injury may be done.

In a disease which is either so acutely fatal or in which the imminent danger is soon past, it is not difficult to see why that which actually occurs just at the time of the injury has escaped notice. In 1863, H. C. Wood [13] observed that the blood of patients suffering major heat-stroke was of "acid reaction." The other information which has been obtained in the past from study of the patient actually suffering heat injury has taught us little with reference to the acute condition. The observations that have been reported are apparently the later result of the early injury. Gradwohl and Schisler [14] noted the parallelism between the urine and blood chemical reactions in heat cases and those of renal insufficiency. Myers and Lough [15] considered that retention of creatinine signified a grave prognosis (5 mg. per hundred cubic centimeters of blood). Gauss and Myer [16] observed numerous hyaline and granular casts in the urine on the second day. According to these observers, the total and differential blood counts are not remarkable. The white blood corpuscles ranged from 11,000 to 15,000. Dopter [17] states that there is a moderate increase in the number of cells in the spinal fluid. Many observers have studied the spinal fluid, among whom Hulbé and Pigache,[18] and Dufour [19] may be mentioned. The results agree in that the spinal fluid shows nothing remarkable.

That animals, especially the dog, horse and cow, are quite as susceptible to heat injury as is man has long been known and is well recognized by veterinary authorities.[20] However, the experimental production and study of heat-stroke in animals presented certain inherent difficulties. First, the ideal animals for such an experiment, horse or monkey, were, for us, out of the question. The dog is the only animal that is large enough to furnish sufficient blood to admit of the studies which were necessary without obscuring the clinical and pathologic changes by the loss of so large a quantity. The dog does not cool itself, as does man, by the evaporation of perspiration from the body surface, but, by panting, loses moisture from the mouth, tongue and throat. It would appear that this animal, having only this relatively limited area with which to cool the body, might be even more susceptible to heat injury than man. With this difference in cooling mechanism in mind and for the reasons stated, we chose the dog as our experimental animal. Our object was to produce experimental heat-stroke in dogs, and to study the essential pathologic change in the blood by chemical means. Autopsies were performed on a number of the animals, and the tissue changes observed.

A chamber for the production of experimental heat-stroke was constructed of pine lumber 1 inch in thickness, enclosing a radiator as a source of heat and insulated with asbestos and cardboard. In one end of the chamber, a glass door was made large enough to admit and remove the animal without difficulty. The door was large enough, therefore, to permit the animal to be observed during the experiment. An electric fan was placed in the chamber, opposite the animal. In the direct blast of the fan on the opposite side of the chamber were the thermometers (wet and dry bulb). The thermometers projected into the chamber through holes in the wall so that the bulbs were in the chamber and the temperature could be read on the outside.

In the chamber, as described, there was sufficient room to accommodate the animal during the experiment. The electric fan kept the air in constant motion, making "wet bulb" thermometer readings possible. The electric light facilitated constant observation. In order to produce the necessary humidity, a wet woolen blanket was spread over the radiator at the beginning of the experiment, and kept wet by a constant drip. Such an arrangement as this produced heat-stroke with great regularity; the appearance time of symptoms was, in general, proportional to the wet bulb reading. In some of the animals, individual susceptibility appeared to be a factor in the time of inception of heat-stroke.

The animals, at first, appeared comfortable, except for increased respiration. The premonitory symptoms of heat-stroke, if any, were a slowing and increased depth of respiration, restlessness, swelling and congestion of the eyes, and weakness of the legs. Occasionally, the first symptom was thirst. Several animals showed a generalized convulsive seizure. One of the animals showed tonic convulsive spasm of the legs (heat cramps?). All the animals showed loss of sphincter control and one a change in temperament. Severe diarrhea was noted for the first three or four hours in the animals which did not succumb early. The respiration became less frequent and, in those that died, very shallow before death. The rectal temperatures before the experiment varied from 102 to 103 F.; after the experiment, from 106 to 113.9 F.

The majority of our animals reacted following exposure with a typical "heat exhaustion" syndrome in that their temperature, which was very high (from 106 to 113.4 F.) following exposure, fell rapidly to a subnormal level, and rose only slowly during the next day in those that lived and then remained at the normal level. One animal (dog 7), which died five minutes after removal from the heat chamber and whose rectal temperature at that time was 109.4 F., had a rectal temperature at the time of postmortem examination (five minutes after death) of 113.9 F. This reaction is suggestive of a thermic fever syndrome. Another animal (dog 8) had a rectal temperature of 107.4 F. after exposure; fifteen minutes later, with the animal in a room temperature of 70 F., the rectal temperature had risen to 113.4 F. The temperature gradually fell to 100.4 F. within six hours after exposure, and the animal died twelve hours later. This reaction appeared typical of thermic fever.

Apropos of the common origin of the two types of symptom complexes, namely, thermic fever and heat exhaustion, the report of heat injuries on the U. S. S. *Kentucky* as given in the fleet surgeon's report [21] in August, 1918, is important. Dr. W. A. Bloedorn stated

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19. Dufour, R.: Des résultats de la ponction lombaire dans l'insolation, Rev. neurol. **17:** 317, 1909.
20. Frieberger and Frohmer's Pathology and Therapeutics of the Domestic Animals, published by W. L. Zuill, printed by W. J. Dornan **2:** 72.
21. Fleet Surgeon's Report, Fleet Orders, U. S. S. Pennsylvania, August, 1918.

that following an accident to the draft ventilation of the fire room at the end of a full power run about twenty men and officers succumbed to the intense heat. Of this number there were about fifteen who had a subnormal temperature, cold, clammy skin, weak pulse —heat exhaustion—while about five had hyperpyrexia (up to 105 F.) and were delirious—thermic fever or sunstroke.

lithium oxalate (1 mg. per cubic centimeter) being used as the anticoagulant. Samples of blood were obtained as a routine before and after heat-stroke. Dogs used were short haired and of medium and small size. The ages were, as nearly as could be judged, from 1 to 2 years. Estimation of the nonprotein nitrogen constituents, sugar, chlorides and lactic acid were made on the tungstic acid filtrate from blood precipi-

TABLE 1.—*Experimental Heat-Stroke in Dogs*

	Before											After									
Dog	Nonprotein Nitrogen	Urea N	Uric Acid	Creatinine	Sugar	Chlorides	Plasma CO_2	Lactic Acid	Serum p_H	Miscellaneous	Nonprotein Nitrogen	Urea N	Uric Acid	Creatinine	Sugar	Chlorides	Plasma CO_2	Lactic Acid	Serum p_H	Miscellaneous	Comment
1	50	25	0	1.1	107	460	52	21.2	....	Phos. 4.0 Total N, 2.5 Gm.	64	37.5	0	1.3	180	550	21.1	88.5	....	Phos. 4.0 Total N, 2.03 Gm.	40 min. exposure; temp. D.B. 138 F., W.B. 104 to 111.2 F.; lived 12 hours; rectal temp. before 103 F., after 111.5 F., 3 hours after 89.6 F.
2	41	24	0	1.2	110	...	81.5	53.1	....	.....	75	28.5	0	...	200	...	10.7	194.7	...	.....	75 min. exposure; temp. D.B. 138 F., W.B. 97 to 104 F.; lived 5 minutes; rectal temp. before 102 F., after 110 F.
3	29	17	0	1.5	88	460	54.9	26.6	....	Total N, 2.68 Gm.	45	23	0	1.7	115	510	20.6	135.3	....	Total N, 2.68 Gm.; O_2 combining power of Hb. normal	22 min. exposure; convulsions; temp. D.B. 136 F., W.B. 100 to 107 F.; rectal temp. before 104 F., after 111.5 F.; fits of anger; convulsions; skin petechiae; death in 23 hours
4	35	16	0	1.1	98	495	....	35.4	7.35	.....	45	20	0	1.6	90	530	28.3	119	6.97	.....	Exposure 20 min. to temp., D.B. 131 to 136 F., W.B. 104 to 106 F.; rectal temp. before 103 F., after 109 F.
5	35	15	0	1.3	100	460	54.1	35.4	7.5	.....	45	23	..	...	115	510	27.7	80	7.27	.....	Exposure 36 min. to a temp. of D.B. 131 F., W.B. 100 to 104 F.; rectal temp. before 102.5 F., after 106 F., 54 min. after 102 F., 84 min. after 101.4 F.; complete recovery in 2 days
6	38	19	..	1.3	110	480	55.7	27.5	7.35	.....	45	23	0	2.0	138	460	21.4	106	7.1	.....	Exposure 32 min. to a temp. of D.B. 138.2 F., W.B. 104 to 109 F.; rectal temp. before 102.5 F., after 109.7 F., temp. dropped in 3 hours to 97.8 F.
	24 hours after exposure.....										90	45	0	1.9	107	...	40	32	....	.....	Day following: very weak, listless, anorexia, gavage of glucose and $NaHCO_3$; recovery apparently complete in 3 days
7	56	25	..	1.5	92	450	55.9	28.3	7.42	.....	64	25	0	1.5	109	490	25.5	106	7.26	.....	Exposure 30 min. to a temp. of D.B. 140 F., W.B. 111.2 F.; rectal temp. before 102.4 F., after 109.4 F.; died 5 min.; temp. 5 min. post mortem 113.9 F.
8	30	15	..	1.4	100	480	57.9	26.5	7.35	Ca, 11.7 P, 4.2	41	23	0	...	162	...	22.1	142	7.21	Ca, 13.7 P, 3.4	Exposure 30 min. to a temp. of D.B. 131 to 141 F., W.B. 102 to 115 F.; rectal temp. after 107.4 F., 15 min. after 113.4 F., 6 hrs. after 100.4 F.; lived 12 hrs.
9*	91	90	0	1.4	107	510	67.2	26.5	7.35	Ca, 12.9 P, 4.2	101	99	Tr.	1.9	158	480	21.4	160	7.18	Ca, 13.9 P, 3.1	Exposure to a temp. of D.B. 136 to 140 F., W.B. 106 to 113 F.; rectal temp. before 102 F., after 113.4 F., 22 min. after 113.6 F.; lived 12 min.
10	26	13	0	1.4	118	480	51.2	28.3	7.36	Ca, 12.2 P, 4.2	45	20	0	1.6	84	510	23.5	150	7.19	Ca, 12.2 P, 3.8	Exposure 48 min., temp. D.B. 134 to 138 F., W.B. 95 to 104 F.; rectal temp. before 101.8 F., after 113 F.; lived 15 min.; temp. at death 112.2 F.

W.B., wet bulb; D.B., dry bulb; P, phosphorus; Ca, calcium; Tr., trace, too faint for colorimetric reading. Total nitrogen results expressed in grams per 100 cc. Plasma CO_2 combining power given in per cent by volume. Other results expressed as milligrams per 100 cc. C. p_H estimation by colorimetric method.

* No. 9 represents dog 6 exposed after two weeks interval.

METHODS

The samples of blood were obtained from the jugular vein after the neck had been shaven and the skin cleaned with alcohol. All the blood was drawn by venipuncture under neutral liquid petrolatum. The blood for p_H determination and carbon dioxide combining power of plasma was kept protected by oil; that for the other chemical procedures was placed in flasks, tated by the method of Folin and Wu.[22] Nonprotein nitrogen, urea and creatinine were estimated by the methods under the Folin-Wu system.[23] Blood sugar was estimated by the method of Folin.[24] Uric acid was

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23. Folin, Otto: Laboratory Manual of Biological Chemistry, New York, D. Appleton & Co., 1920.
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estimated by the modified method of Folin,[25] using the Folin-Trimble[26] reagent. Chlorides were estimated by the Whitehorn method.[27] Plasma carbon dioxide combining power was estimated by the method of Van Slyke and Cullen.[28] Lactic acid was estimated by the method of Ryffel, as modified by Scott and Flinn.[29] Total solids of the blood were determined by the gravimetric method, and total blood nitrogen as a measure of total proteins by the Myers[30] method. Inorganic phosphorus was estimated by Benedict's[31] method. Calcium was estimated by the method of Tisdall.[32] The hydrogen ion concentration of serum was determined by A. B. Linden and L. E. Dawson of the Department of Agriculture, Bureau of Chemistry, using a potentiometer of L. E. Dawson's design,[33] and the quinhydrone electrode.[34] Blood serum was used for the p_H determination throughout so as to avoid any interference by the action of oxalate. The blood and serum were protected from contact with the air at all times, and during the process of centrifugalizing a one-hole rubber stopper was forced down in contact with the blood and plugged with a section of glass rod as recommended by Cullen.[35] Clean, neutral glassware was used throughout.

RESULTS

In analyzing the results obtained, as recorded in the table of averages (table 2) and in the detailed table (table 1), the most striking changes were those in lactic acid (chart 1) and in the alkali reserve as measured by the carbon dioxide combining power of plasma (chart 2). The average lactic acid in ten dogs before heat-stroke was 31.8 mg., all readings, except that in dog 2, falling between 21.2 and 35.4 mg. of lactic acid per hundred cubic centimeters of blood. The high lactic acid (53.1) and low plasma carbon dioxide combining power (31.5) found in dog 2 would indicate that the animal was not normal at the time of the experiment. The highest figure for lactic acid (194.7) and lowest level of carbon dioxide combining power (10.7) obtained were those found in the post-run specimen taken from this animal. The highest lactic acid after heat-stroke found in the other nine animals was 160 mg., and the lowest carbon dioxide combining power 20.6 (dog 3). There did not, however, appear to be an accurate correlation between the level of lactic acid and alkali reserve in the individual animals, as may be noted by reference to table 1.

Serum p_H dropped (hydrogen ion concentration increased) an average of 0.19 (seven observations). Here, too, there appeared to be no exact correlation between the change in p_H and the condition of the alkali reserve or lactic acid level. The definite swing toward the acid side noted in all the observations, as well as in the average, differentiates clearly the fall in alkali reserve from that of an acapnial process. The fact that Flynn's animals, which were exposed to high temperatures and low humidity, and whose respiratory rate was rapid over a much longer period of time, did not show a considerable fall in alkali, emphasizes this point. It may be noted that a panting dog, although it breathes rapidly to promote evaporation and cooling, breathes correspondingly less deeply and washes out less carbon dioxide, thus avoiding acapnia.

Blood sugar, as noted in the table of averages, increased 41 mg. It will be noted, however, by reference to table 1, that this was not a constant finding, and that, in a number of cases, the blood sugar was relatively unchanged, and in one case actually fell (from 118 down to 84). Note should be made that, in these experimental animals, the condition of heat-stroke was not complicated by a condition of physical exhaustion, as may be often the case in men at hard labor in whom carbohydrate store might be extensively called on for fuel needs.

TABLE 2.—*Experimental Heat-Stroke in Dogs: Average*

	Before	After	Increase	Decrease
Nonprotein nitrogen	42.8	57.0	15.0	....
Urea nitrogen	25.9	32.2	6.3	....
Uric acid	None	Trace (1)	Trace	....
Creatinine	1.32	1.76 (7)	0.44	....
Sugar	103	144	41	....
Chlorides	475 (9)	501 (8)	26	....
Plasma carbon dioxide combining power	52.2 (9)	22.2	....	30.3
Lactic acid	31.8 (7)	128	96.2	....
Serum p_H	7.38	7.19 (7)	....	0.19
Inorganic phosphorus	4.15 (4)	3.56 (4)	....	0.59
Calcium	12.26 (3)	13.26 (3)	1.0	....
Total nitrogen	2.28 (3)	2.188 (3)	...	0.092
Total solids	18.5 (2)	18.45 (2)	...	0.05

Plasma carbon dioxide combining power expressed in per cent by volume; total nitrogen in grams per hundred cubic centimeters; total solids in per cent; other results (except p_H) expressed in milligrams per hundred cubic centimeters. Figures in parenthesis denote the number of observations on which results are based. Except where noted otherwise, this is ten.

Nonprotein nitrogen of the blood evidenced a constant, moderate increase. This was accounted for largely by the increase in urea nitrogen. Creatinine also was, uniformly, slightly increased. In dog 6, whose blood was examined after twenty-four hours, and again after two weeks following exposure (and charted as dog 9), the later manifestations of renal injury are most clearly brought out. The fact that in but one case was uric acid present in the blood (dog 9) is significant. In the normal dog, there is no uric acid in the blood. Mann[36] has shown that, in liver injury, the hepatic function first injured is that of uric acid destruction. The animal which showed presence of blood uric acid had been given heat-stroke twice in two weeks, and, it is reasonable to suppose, was manifesting liver injury beyond the ability of hepatic reserve to compensate wholly. The injury to the renal parenchyma is probably parallel to that of the parenchymal cells of and other viscera, noted in the tissue observations.

Inorganic phosphorus fell in each case observed, the drop averaging 0.59 mg. Were the acidosis, which was present, complicated by an acid phosphate retention, inorganic phosphorus of the blood should show an increase.

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31. Benedict, S. R., and Theis, R. C.: Modification of Molybdic Method for Determination of Inorganic Phosphorus in Serum, J. Biol. Chem. **61**: 63-66 (Aug.) 1924.
32. Tisdall, F. F.: A Note on the Kramer-Tisdall Method for the Determination of Calcium in Small Amounts of Serum, J. Biol. Chem. **56**: 439-441 (June) 1923.
33. Dawson, L. E.: The p_H with Quinhydrone Electrode, Sugar **28**: 211-214, 262-264, 310-312, 169-170, 1926.
34. Cullen, G. E., and Biilman, E.: The Use of the Quinhydrone Electrode for Hydrion Concentration of Serum, J. Biol. Chem. **64**: 727-738 (July) 1925.
35. Cullen, G. E.: The Colorimetric Determination of the Hydrogen Ion Concentration of Blood Plasma, J. Biol. Chem. **52**: 501 (June) 1922.
36. Mann, F. C., and Bollman, J. C.: Liver Function Tests, Arch. Path. & Lab. Med. **1**: 681 (May) 1926.

Calcium rose in two cases and remained constant in one, the average of three observations being a rise of 1 mg. This rise may perhaps be accounted for by a calcium mobilization by hydrogen ion increase.

Total nitrogen, as a measure of blood proteins (three observations, one not shown in table 1) showed an average fall of 0.092 Gm. per hundred cubic centimeters. Total solids (two observations, not recorded in table 1) fell 0.05 Gm. per hundred cubic centimeters or per cent. These changes in protein and total blood solids are slight and, in view of the possibility of experimental error in so small a number of observations, the safe conclusion is that no marked change in blood solids has been demonstrated.

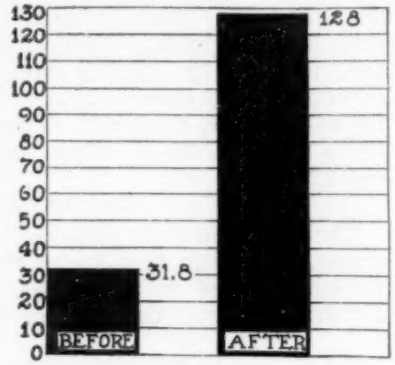

Chart 1.—Blood lactic acid in experimental heat-stroke.

Blood chlorides, calculated as sodium chloride, increased in all cases except dogs 6 and 9, in which a drop occurred. The average increase in the ten animals after heat-stroke was 26 mg. per hundred cubic centimeters.

Oxygen-combining power (two observations) remained normal. That is, hemoglobin estimation by the acid-hematin method of Newcomer[37] compared with the estimation of hemoglobin by the oxygen-combining power according to the method of Van Slyke,[38] showed no reduction by the latter method.

Specimens of urine were obtained from these animals after heat-stroke with some difficulty and in very small quantity. This apparent suppression of urine is in accordance with the clinical observations of H. C. Wood.[13] This condition is not difficult to explain when the acute degeneration, swelling and obstruction of the renal tubules are considered. Analysis of the urine showed much albumin, no sugar, and no ketone bodies (aceto-acetic acid and acetone). The absence of ketone bodies is of interest since it has been reported as an occasional finding in heat-stroke in man,[39] and a ketonic acidosis has been predicted in the condition.

PATHOLOGIC CHANGES

Gross.—Postmortem examinations were performed on a number of the animals. Some of them were examined immediately, and others from twelve to twenty-four hours after death. Nothing unusual was noted in the development of rigor mortis. The major change was rigid contraction of the left ventricle, and venous congestion of all the veins in the body, especially of the mucous membranes, lungs and liver. Except for a small amount of congestion of the meninges, there were no macroscopic changes in the brain and cord. The intestines were blanched and rigidly contracted. The stomachs were dilated and contained large quantities of fluid. The kidneys were of light color, and on section there appeared a marked cloudy swelling. The urinary bladder was often almost empty and tightly contracted. One animal (dog 3) showed petechial hemorrhages in the skin and mucous membranes. Several animals showed, in addition to pulmonary congestion, petechiae on the surface of the lungs, liver and spleen.

Microscopic (by Dr. E. E. Smith, United States Naval Medical School).—Pathologically, the tissues showed lesions consistent in type but variable in degree. In case of death early in the period of recovery, such as in experiment 2, the lesions were less conspicuous than in experiment 8, in which the animal survived the second exposure for twelve hours.

Morphologic disorganization of the parenchymatous cells was a characteristic feature of the tissues examined. This varied in degree from a fine, hardly detectable, granular degeneration to complete necrosis of both cytoplasmic and nuclear elements. There was practically no inflammatory response to this trauma except in the lungs, where edema was a striking feature, especially if death occurred late in the recovery period.

This degeneration was shown to occur in the heart, lungs, kidneys, intestines, liver, pancreas, spleen, thyroid and suprarenal; that is, in all the tissues removed for microscopic study. Of these the lungs, kidneys, liver, intestines and thyroid presented the greatest alterative changes.

Pulmonary edema was present in considerable degree in experiment 2, in which death occurred early in the recovery period. It was massive in degree in experiment 8. This edema was practically entirely interstitial in type, the alveoli being empty and constricted by pressure. The bronchial mucous membrane shared in the general parenchymatous degeneration and was covered with an extensive layer of material consisting of coagulated albumin and a few cells, chiefly necrotic epithelium.

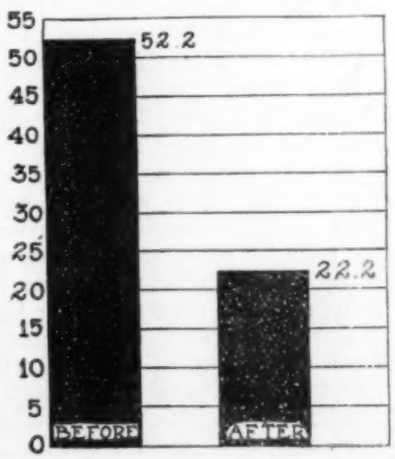

Chart 2.—Plasma carbon dioxide combining power (alkali reserve) in experimental heat-stroke.

Parenchymatous degeneration of the kidney occurred early and was extensive. It was of advanced degree in experiment 2, in which the convoluted tubules were primarily affected. In experiment 8 it was more advanced in extent and degree. In this case few lumens were patent and the glomeruli were shrunken instead of edematous as in experiment 2, while the capsules appeared distended as if under pressure.

The initial liver lesion was central and it varied in degree from a fine granular degeneration to complete necrosis. In experiment 2 it was more focal than in experiment 8. It was of milder degree than the necrosis found in acute yellow atrophy or in chloroform poisoning.

Necrosis of the epithelium was conspicuous in the intestinal tract. Sections from the colon revealed complete necrosis of the superficial layer of the mucosa,

37. Newcomer, H. S.: Absorption Spectra of Acid Hematin, Oxyhemoglobin and Carbon Monoxide Hemoglobin, J. Biol. Chem. **37**: 465-469 (March) 1919; A New Optical Instrument for the Determination of Hemoglobin, ibid. **55**: 569-574 (April) 1923.
38. Van Slyke, D. D., and Stadie, W. C.: The Determination of the Gases of the Blood, J. Biol. Chem. **49**: 1-42 (Nov.) 1921.
39. Wilcox, W. H.: The Nature, Prevention and Treatment of Heat Hyperpyrexia, Brit. M. J. **1**: 392-397 (March) 1920.

and an advanced degree of necrosis extended to the muscularis.

The thyroid appeared to suffer severe trauma during the recovery period. In experiment 2 it presented little alteration, while in experiment 8 there was extensive parenchymatous alteration. The majority of the acini were collapsed, and the cells were disorganized in arrangement and degenerated in structure. Some of the acini contained a pale colloid. The cells of these acini were cuboidal and showed degenerating protoplasm; many were separated from their basement membrane.

Accompanying this parenchymatous degeneration in all tissues was an acute passive congestion with deposition of blood pigment. This was of much greater degree in experiment 8, in which case it was accompanied by capillary hemorrhages.

NEUROPATHOLOGY

In brief, the neuropathology—microscopic study—by Dr. Walter Freeman, pathologist of St. Elizabeth's Hospital, was as follows: An advanced degree of parenchymatous degeneration was apparent in the brain. This degeneration was evidenced by a loss of concave outlines in the ganglion cells, a reduction of the chromatin to a hyaline, bluish staining material, a breaking up of the cytoplasm into small strands and vacuoles and, finally, a washing out of the cytoplasm. The nucleus tended to become more opaque than normal and to lose its sharp differentiation; in some instances it was displaced to the side of the cell. The nucleolus remained intact in all but the completely destroyed cells. The appearance of halos about the minute rounded glia nuclei was interpreted as swelling of the cytoplasm.

SUMMARY

Following exposure, the experimental animals reacted with the clinical syndrome of heat exhaustion as well as that of thermic fever, indicating the common etiology of these two types of reaction.

The blood chemical observations and pathologic changes in tissue following major heat-stroke showed that there was great renal injury evidenced by the progressively increasing azotemia in an instance studied twenty-four hours and two weeks after the injury. This nitrogen retention is obviously not a portion of the essential pathologic changes of the early acute condition. The uniform moderate increase in nonprotein nitrogen which occurred in the blood taken immediately following exposure is undoubtedly accounted for by rapid destruction of protein, incident to the high temperatures, increased metabolism and tissue damage. Nitrogen retention due to renal insufficiency would be impossible in so short a time.

Blood sugar increased in some cases, decreased in two instances, and remained relatively constant in others. That is to say, no significant or constant trend was noted in blood sugar level.

In most instances, blood chlorides increased. They decreased slightly in two cases, but the average showed an increase of 26 mg. per hundred cubic centimeters.

Alkali reserve, as recorded by plasma carbon dioxide combining power, decreased markedly in all instances, going as low as 10.7 per cent by volume in one case.

Lactic acid content of the blood reached very high levels following exposure, the increase averaging 96.2 mg. per hundred cubic centimeters, or an average increase of more than 300 per cent.

Serum p_H decreased (increase of acidity) in all cases in which the observation was made (seven) thus excluding an acapnial reaction in the fall of alkali reserve and emphasizing the uncompensated nature of the acidosis.

Total nitrogen and total solids determinations did not demonstrate any significant change in blood concentration.

Inorganic phosphorus of the serum was slightly decreased, and serum calcium showed an increase.

The pathologic changes were: rigid contraction of the left heart, venous congestion, contraction of the intestines and urinary bladder, dilatation of the stomach, and cloudy swelling and degeneration of the parenchymatous elements, particularly those of glandular and nervous character. There was no reaction of the connective tissue other than in the pulmonary changes noted.

CONCLUSIONS

The important acute pathologic change in major heat-stroke, other than that due to the effect of high temperatures per se on the tissues, is a massive increase in lactic acid, with the resulting symptoms of acidosis.

PERORAL ADMINISTRATION OF COLLOIDAL CONTRAST MEDIUM IN CHOLECYSTOGRAPHY

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CHICAGO

The substances used at present for the purpose of cholecystography are derivatives of phenolphthalein, with which they share many of its qualities. This body, a white, insoluble powder, owes its use as an indicator of free alkali to the fact that it forms brilliant red soluble salts on the addition of alkali. That it also has purgative qualities was discovered when, almost thirty years ago, the Hungarian government decreed that wine, adulterated by certain harmless additions, be earmarked by means of phenolphthalein so as to enable the poor man to buy this "necessity of life" at a price within his means. It was soon found that people partaking freely of this wine suffered from diarrhea, which led to a hasty repeal of the law and the discovery of a new purgative. Vamossy,[1] who subsequently investigated this matter, found that phenolphthalein is but little absorbed from the gastro-intestinal tract, quite devoid of toxicity, and can safely be used as a cathartic.

With the hope of possibly finding a serviceable hypodermic purgative, Abel and Rowntree[2] experimented with a number of derivatives of phenolphthalein, among them the tetra compounds with chlorine, bromine and iodine. These bodies are, like phenolphthalein, odorless and tasteless white crystalline substances, insoluble in water, and quite nonirritant when applied locally. With alkalis they form deeply colored salts (hereafter to be called "dye") that are highly irritant. This is due to the fact that they are very weak acids, even carbonic acid precipitating them, and that, when combined with a powerful base, they are strongly hydrolyzed in aqueous solution. Hence they act on tissues like solutions of caustic alkalis. When such solutions are injected

1. Von Vamossy, Z.: Ueber ein neues Abführmittel (Purgen), Therap. d. Gegenw. **43**: 201 (May) 1902.
2. Abel, J. J., and Rowntree, L. G.: On the Pharmacological Action of Some Phthaleins and Their Derivatives, with Special Reference to Their Behavior as Purgatives, J. Pharmacol. & Exper. Therap. **1**: 231 (Aug.) 1907.

subcutaneously, even though they are sterile and isotonic, necrosis of fatty tissue results. Oil suspensions of the insoluble phthaleins are better borne hypodermically but rather slowly absorbed.

That the phenolphthaleins have no antiseptic action is shown by the fact that luxuriant bacterial growth may be obtained on culture mediums containing them. Bile containing these bodies in abundance is not bactericidal.

When the soluble salts are taken into the stomach, they are quite irritant and usually promptly evacuated by emesis. The insoluble tetrahalogen derivatives of phenolphthalein, on the other hand, are quite well borne by the stomach, practically not absorbed, and have a purgative action like phenolphthalein.

These bodies have no effect on blood; they do not produce hemolysis nor do they cause changes in coagulability when injected intravenously suspended in serum. It is evident that excessive quantities of the soluble salts added to blood will have the effect of free alkali.

Animal experiments have shown that the arterial blood pressure is lowered only when these drugs are injected into the blood stream with undue rapidity, and even in that case the fall is of the most transient character. A slight rise of arterial pressure is caused by the presence of large quantities of the drugs in the vascular system.

In human beings, slow intravenous injection of the soluble salt generally does not produce any effect on the circulation. The blood pressure remains practically unchanged; and absence of effect on the heart has been demonstrated by Reid and Kenway [3] by means of the electrocardiograph. Not infrequently "reactions," sometimes of most alarming nature, are experienced, consisting most commonly of a feeling of nausea, usually unattended by vomiting. Less commonly there occurs vasomotor collapse of various degrees of severity, with pallor, palpitation, prostration and perspiration, which may be preceded by extreme redness of the skin. These effects are erratic in their occurrence, probably akin to those liable to follow any intravenous injection, and possibly due to what the French call a "colloidoclastic" crisis. This is also suggested by the fact that epinephrine seems to be of analeptic value in these as in other similar reactions.

Abel and Rowntree [2] found that, while in the system, these phthaleins exert no demonstrable action; nor do they produce, after repeated injections, evident degenerative changes, even in the liver, which seems to have most to do with the elimination of these bodies.

More recently, Ottenberg and Abramson [4] have shown experimentally in animals that these bodies are capable of producing lesions in the liver; but the doses required are from four to six times larger per kilogram of body weight than the doses used for cholecystography in man.

In the course of their study with these phthalein derivatives, Abel and Rowntree [2] discovered the remarkable fact that the only channel for the excretion of the tetrahalogen derivatives is the bile, the amount that passes into the intestine in other secretions, into the urine, or into the milk being so minute that it cannot be detected. In this respect these compounds differ markedly from phenolphthalein, which is excreted to a considerable extent by the kidneys. These investigators also discovered that a single subcutaneous injection of tetrachlorphenolphthalein (0.4 Gm.) dissolved in oil (20 cc.) acted as a laxative for as long as four or five days. This they explained by the observation that it is reabsorbed, from its solution in bile, by the large intestine, as can be shown by the red coloration the mucosa of the colon assumes when treated with alkali.

This reaction cannot be obtained in the mucosa of the small intestine. That portion of the drug which is absorbed by the large intestine is again excreted by the liver, and again absorbed in large part by the mucosa of the colon, with a repetition of this cycle as long as the drug remains in the system. From four to five days after subcutaneous injection it may still be detected in the feces. Its low solubility in oil, necessitating a large bulky injection, stands in the way of the general adoption of this as a hypodermic cathartic.

Because of its specific elimination by the liver, tetrachlorphenolphthalein was proposed by Rowntree as a liver function test, and its value studied clinically by him and collaborators [5] and experimentally by Whipple, Peightal and Clark,[6] with results that established the almost complete elimination of this substance by the liver in normal human beings, and its delay in cases of diffuse liver disease.

This work of Abel and Rowntree offered the suggestion to Graham and Cole that the gallbladder might possibly be rendered opaque to the roentgen rays by the bile containing some such dye. The chlorine derivatives having been found unsatisfactory; and, as opacity to the roentgen rays is proportional to the atomic weight, they tried the bromine and iodine derivatives, because bromine is more than twice as heavy as chlorine, and iodine almost four times as heavy. The iodine derivative was at first found too toxic and unstable, and the bromine derivative was advocated by Graham and his collaborators.[7] Improved methods of manufacture and preservation have, however, established the iodine derivative as superior [8] because efficient in smaller dose. The mere elimination of the dye by the bile is not sufficiently satisfactory for visualization of the gallbladder. It is because this organ is not only a storage place for bile but also capable of concentrating it that it becomes sufficiently opaque to cast a fairly dense shadow.

Copher [9] has shown that the halogen in the bile is concentrated from two to four times by the gallbladder. To permit this concentration to occur, it is necessary for the bile to remain in the gallbladder for quite a number of hours. Therefore this viscus must be kept from emptying itself, which may be accomplished by not permitting any food to enter the stomach until after

3. Reid, W. D., and Kenway, Florence L.: The Action of Tetraiodophenolphthalein on the Heart, J. A. M. A. **88**: 540 (Feb. 19) 1927.

4. Ottenberg, Reuben; and Abramson, H. A.: Production of Liver Necrosis by Tetrachlorphenolphthalein and Tetrabromphenolphthalein, J. A. M. A. **84**: 800 (March 14) 1925.

5. Rowntree, L. G.; Hurwitz, S. H., and Bloomfield, A. L.: An Experimental and Clinical Study of the Value of Phenoltetrachlorphthalein as a Test for Hepatic Function, Bull. Johns Hopkins Hosp. **24**: 327 (Nov.) 1913.

6. Whipple, G. H.; Peightal, T. C., and Clark, A. H.: Tests for Hepatic Function and Disease Under Experimental Conditions: Phenoltetrachlorphthalein, Bull. Johns Hopkins Hosp. **24**: 343 (Nov.) 1913.

7. Graham, E. A., and Cole, W. H.: Roentgenologic Examination of the Gallbladder: Preliminary Report of a New Method Utilizing the Intravenous Injection of Tetrabromphenolphthalein, J. A. M. A. **82**: 613 (Feb. 23) 1924. Graham, E. A.; Cole, W. H., and Copher, G. H.: Visualization of the Gallbladder by the Sodium Salt of Tetrabromphenolphthalein, ibid. **82**: 1777 (May 31) 1924; Roentgenological Visualization of the Gallbladder by the Intravenous Injection of Tetrabromphenolphthalein, Ann. Surg. **80**: 473 (Sept.) 1924.

8. Whitaker, L. R., and Milliken, G.: A Comparison of Sodium Tetrabromphenolphthalein with Sodium Tetraiodophenolphthalein in Gallbladder Radiography, Surg. Gynec. Obst. **40**: 17 (Jan.) 1925. Graham, E. A.; Cole, W. H., and Copher, G. H.: Cholecystography: The Use of Sodium Tetraiodophenolphthalein, J. A. M. A. **84**: 1175 (April 18) 1925.

9. Copher, G. H.: Cholecystography: Appearance and Disappearance of the Shadow, J. A. M. A. **84**: 1563 (May 23) 1925.

satisfactory pictures have been obtained, which is generally within from twelve to sixteen hours. Indeed, the prompt disappearance of the shadow after a meal rich in fat is one of the criteria of a normally functionating gallbladder; namely, its emptying power. So is the diminution in size of the shadow and its increasing density during the time the dye remains in the

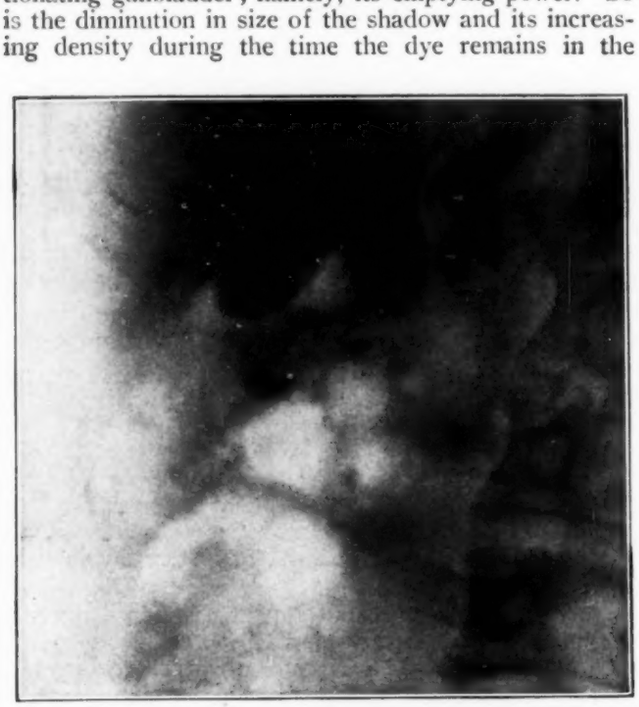

Fig. 1.—Appearance twelve hours after peroral administration of solution of tetraiodophenolphthalein to man, aged 47: Shadow in hepatic flexure of colon shows presence of excess of dye.

gallbladder, which shows that the concentrating power is still there, a function lost in cholecystitis.

The intravenous injection advocated by Graham presents the disadvantages of pain and troublesomeness of administration; of disagreeable reactions, such as headache, dizziness, nausea or vomiting; weakness; diarrhea; pain in the back or abdomen; chills, and "smothering" or "nervousness" in from one third to two thirds of all administrations.

There is a liability to venous thrombosis, as well as to necrosis of the skin overlying the vein on paravenous injection. One death followed the intravenous administration of 5.5 Gm. in one dose, almost twice the dose recommended. Giving the dose in two injections instead of one is advocated, to make the procedure safer and less liable to undesirable reactions.

Of late Graham and his collaborators[10] are using the sodium salt of phenoltetraiodophthalein, an isomer of tetraiodophenolphthalein, by intravenous injection for cholecystography. They obtained satisfactory shadows of the gallbladder with smaller doses (2.5 Gm. for adults) and have had fewer (35 per cent) and less severe toxic reactions. This substance seems to be more rapidly secreted by the liver. Excellent shadows of the gallbladder may be obtained four hours after injection, so that the time necessary for a cholecystographic examination can be shortened. They also find that this salt stains the serum sufficiently after alkalization to permit quantitative estimation, thus making it possible to perform a liver function test in addition to a cholecystography.

10. Graham, E. A.; Cole, W.; Copher, G. H., and Moore, Sherwood: Cholecystography: The Use of Phenoltetraiodophthalein, J. A. M. A. **86**: 1899 (June 19) 1926.

ENTERIC ADMINISTRATION

Peroral administration, which would be quite advantageous from a clinical standpoint, presents considerable difficulty. The dye is changed by the acid of the stomach into a white, sticky mass, quite difficult of solution, therefore inert as far as obtaining shadows of the gallbladder is concerned, and yet having quite a tendency to cause nausea and vomiting.

Menees and Robinson,[11] Stewart and Ryan[12] and others attempted to solve the problem by enteric administration, even to the extent of introduction directly into the intestine by means of a duodenal tube. Rectal injection has also been resorted to[13] of concentrated solution as well as the dilute solution in the form of a drip, but abandoned, even though gallbladder shadows were obtained, because it is poorly tolerated. All possible methods of enteric encapsulation have been tried: formaldehyde-hardened gelatin (Menees and Robinson), coating with phenyl salicylate (Whitaker, Milliken and Vogt[14]) and keratin coating (Stewart and Ryan).

Though none of these is entirely satisfactory, and Graham and his collaborators still cling to the intravenous injection as the method of choice, enteric encapsulation has established itself as the routine practice with many roentgenologists, who reserve intravenous administration for those cases only that do not yield unequivocal results after the giving of the capsules.

One of the difficulties of enteric encapsulation is that the capsules may open in the stomach and produce

Fig. 2.—Appearance sixteen hours after ingestion of dye, excess of which is evident by mottled shadow in ascending colon. Patient is a man, aged 39.

nausea and vomiting, or else that they may not disintegrate at all or promptly enough to yield the dye to

11. Menees, T. O., and Robinson, H. C.: Oral Administration of Sodium Tetrabromphenolphthalein: Preliminary Report, Am. J. Roentgenol. **13**: 368 (April) 1925; Oral Administration of Tetraiodophenolphthalein for Cholecystography, Radiology **5**: 211 (Sept.) 1925.

12. Stewart, W. H., and Ryan, E. J.: The Reliability of Cholecystography by the Oral Method as Shown by an Analysis of One Hundred Consecutive Cases, Am. J. Roentgenol. **16**: 234 (Sept.) 1926.

13. Boardman, W. W., and McKenzie, R. B.: Cholecystography: Value as Diagnostic Procedure, California & Western Med. **24**: 60 (Jan.) 1926.

14. Whitaker, L. R.; Milliken, G., and Vogt, E. O.: The Oral Administration of Sodium Tetraiodophenolphthalein for Cholecystography, Surg. Gynec. Obst. **40**: 847 (June) 1925.

absorption. As good gallbladder shadows are frequently obtained in spite of the fact that quite a few of the capsules have remained undissolved, it is evident that, with peroral administration, we are using an excess of dye. Menees and Robinson [11] find 2.5 Gm. a satisfactory minimum; and since perhaps half the dose is never absorbed, as shown by the shadows in the colon,

Fig. 3.—Large pale gallbladder shadow with cluster of faceted stones in fundus, twelve hours after peroral administration of solution to obese woman.

gallbladder visualization must be produced by a smaller quantity of dye given perorally than when it is given intravenously. For, on peroral use, the phthalein derivative is brought directly to the liver by the portal vein without being carried all through the circulation and spread all over the body, as it is on intravenous injection. A serious objection, it seems, to enteric encapsulation is the opening up of the capsules and the possible discharging of their very irritative contents, in concentrated form, against the mucosa of the bowel with possible damage. No wonder that some patients complain of nausea, or that some are purged or have abdominal colic or backache, after the giving of the capsules. Should purging be produced to such a degree as to vitiate the result, recourse to intravenous injection may still not be necessary, if one gives a 0.06 Gm. capsule of powdered opium along with the dye capsules, repeating the dose in from two to four hours if required. It might not be altogether fanciful to imagine that these hard and insoluble capsules might be forced by peristalsis against a peptic ulcer with resulting pain and even possible perforation. In one of my patients with duodenal ulcer, these capsules did produce so severe an attack of abdominal pain that hypodermic injection of morphine and atropine became necessary.

PERORAL ADMINISTRATION OF SOLUTION

For these reasons, and also because patients are occasionally encountered who cannot or will not swallow capsules, it seemed worth while to undertake experiments to determine whether the dye may possibly be given by mouth without encapsulation. The situation seemed to present two aspects: first, reduction of the alkali irritation produced by the soluble dye salt, and suppression of the emesis; and, secondly, protection of the dye against precipitation by the acid of the gastric juice. To reduce alkali irritation, the minimal effective dose had to be determined. This is below 2.5 Gm. for an adult, for giving the agent in solution is more effective than capsule administration in yielding the dye to absorption, as has been proved. Possibly the smaller dose of phenoltetraiodophthalein might be of sufficient advantage to make it preferable for oral use, in spite of its at present apparently excessive price. This dose was given in a glassful of demulcent vehicle. Milk suggested itself, for, to the extent to which its protein and its emulsified fat are attacked by the alkali, it will protect the mucosa against irritation. We must, however, get the milk out of the stomach, as the longer the milk stays in the stomach the more hydrochloric acid must be neutralized. I have tried sodium citrate (1 per cent) to prevent curdling of the milk, with but partial success. Cream and water, equal parts, is probably a better vehicle. The dose was given just before the patient went to bed for the night, after he had partaken of a very light meal four or five hours previously.

To neutralize the gastric juice is not an easy task, as is well known. I have made the attempt by giving an alkali powder composed of sodium bicarbonate, 1 Gm., and precipitated calcium carbonate, 2 Gm., in

Fig. 4.—Appearance after 1 Gm. of tetraiodophenolphthalein in colloidal form had been given perorally.

a wineglassful of water just before the dye is administered in cream and water. As the stomach has a great tendency to overcome this artificial depression of acidity, it is necessary to give alkali at intervals afterward. I have given an alkaline powder every half hour after the first one, until the patient is asleep.

From my experience with the process, as described, I have no hesitancy in asserting that it works, as may be shown by a few of the cholecystograms (figs. 1, 2 and 3) I have obtained in this manner from twelve to sixteen hours after giving the dye. Vomiting, which

occurs in a certain number of cases, was still the chief difficulty. Even when vomiting occurred, it was usually so late that the dye was sufficiently absorbed to permit gallbladder visualization. My experience justifies agreement with the statement of other students of the subject that, if the dye is retained for more than one hour and even less, the gallbladder can be visualized in all normal cases.

One reason for a high incidence of emesis in cholecystography, no matter by what method the dye is introduced, is that most of the persons subjected to this examination suffer from gastric disturbance and that quite a proportion of them are prone to nausea or vomiting even after the ingestion of ordinary foods. In cases, therefore, in which a tendency to vomiting is known to exist, it might be well to forestall emesis by administering, half an hour before the first alkaline powder, a dose of hypnotic, e. g., phenobarbital sodium, 0.3 Gm., so as to secure a night's good sleep. To forestall purging, a dose of powdered opium (0.06 Gm.) might also be given. Fortunately, it has been possible to eliminate the tendency to emesis almost entirely by administration of the agent in colloidal form.

ADMINISTRATION IN COLLOIDAL FORM

Test tube experiments show that, when sodium bicarbonate is added to the dye solution, a precipitate occurs, most of the tetraiodophenolphthalein being thrown down in the form of very fine particles. Yet this suspension gives fairly satisfactory shadows. It is therefore not necessary to attempt maintaining the dye in solution. One may indeed doubt, in view of the ease

Fig. 5.—Shadow obtained after 2 Gm. of colloidal medium when 1 Gm. failed (Mrs. S.).

with which the dye is precipitated by carbonic acid and the abundance of this body in the system, whether the dye is not first precipitated before it becomes active, no matter in what form and by what channel it is administered. It then occurred to me that it would be worth trying to give the contrast medium in the form of a very fine precipitate, preferably colloidal, so as to secure maximum solubility in the solvent juices of the intestine. This I have accomplished by the addition of carbonated water to the dye solution, or by passing a stream of carbon dioxide through it until it is discolored. To stabilize this colloidal precipitate, a protective colloid is desirable, which not only keeps the fine precipitate in suspension but also prevents its deflocculation in coarse, curdy form by such influences as the gastric juice. A very dilute tragacanth mucilage

Fig. 6.—Same case as figure 5 one hour after a meal, showing that gallbladder is not well emptied.

has been found satisfactory for this purpose. This mixture looks like milk, is not offensive to the taste, and is sufficiently well borne by the stomach not to cause emesis. This colloidal contrast medium can, no doubt, be elaborated in solid form by a process analogous to the one by which the colloidal silver preparations are produced, and might then be given in ordinary gelatin capsules without the liability to gastric or intestinal irritation inherent in the soluble dye.

That the solubility and absorbability of the agent has in this manner been increased is shown by the fact that as little as 1 Gm. of the dye gives a shadow in a normal person (fig. 4). I found, however, a case in which 1 Gm. failed to show a shadow but 2 Gm. did (fig. 5). That this is probably a pathologic gallbladder is indicated by the fact that the shadow did not disappear soon after a meal, as it normally does (fig. 6). Though 3 Gm. is as well borne as a smaller dose, it is probably not necessary to give more than 2 Gm., as I found that when 2 Gm. did not give a shadow 3 Gm. also failed.

The preparation advocated renders cholecystography very simple. The subject is advised to eat an early light supper and to take the mixture just before retiring, say at 9 or 10 o'clock. The next morning, if the person has not ingested any food in the meantime, one will in a normal individual obtain a rather faint cholecystogram, which becomes much denser by the sixteenth hour and disappears shortly after a meal. So simple is the process that it should be possible to perfect a technic by which cholecystography may be introduced as a routine into the gastro-enteric roentgenographic series, as I have recently done. By such a combination we have actually photographed the gallbladder and the bile ducts in the act of emptying into the duodenum.

What remains to be done is to study, in the first place, means of intensifying the shadow to the maximum degree possible, though the procedure as I now have it gives fairly good results. As absorption of the contrast medium probably occurs only in the proximal colon, keeping the contents of this portion of the intestine in a liquid state should be favorable. As alkali aids in the solution of the precipitate, increasing the alkalinity of the bowel might also be desirable. With these considerations in mind, I have been giving a teaspoonful of a mixture of 1 part of sodium bicarbonate and 2 parts of sodium phosphate in a cup of hot water half an hour before meals, including the last supper. Giving magnesia might be a still simpler means to the same end. Possibly the administration of bile might help solution and absorption of the agent. Phenoltetraiodophthalein might be superior to the dye I employed; but its present price is almost prohibitive.

Another problem that requires elucidation is what besides pathologic conditions of the gallbladder interfere with adequate absorption. Such, for instance, exists when the cecum and colon are packed with retained fecal matter, as in cecal stasis. Preliminary purgation, as suggested, should take care of such interference.

Even in the present state of the experiments it may be concluded that the problem of peroral cholecystography will probably be solved by the administration of the contrast medium in colloidal form.

ULTRAVIOLET RADIATION FROM SUNLIGHT AND INCANDESCENT LAMPS

ITS TRANSMISSION THROUGH WINDOW GLASS AND SUBSTITUTES *

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HARVEY B. LEMON, PH.D.; I. S. FALK, PH.D.
AND
E. N. COADE, M.S.
CHICAGO

In a recent report on window glass substitutes, the Council on Physical Therapy of the American Medical Association [1] presented the results of investigations which "encourage the belief that there are now available materials for glazing our windows which do not possess the fault of window glass in excluding the health-giving rays of sunlight." We present here a preliminary report on experiments that were started about a year ago. Our studies were designed to cast some light on the relations between seasonal variations in ultraviolet radiation from the sun and seasonal incidences of morbidity and mortality. In addition to obtaining, under the supervision of Prof. Henry G. Gale and Prof. A. J. Dempster, daily spectroscopic records of Chicago's sunlight and records on other meteorological conditions, we have obtained some data which may be of interest to readers of THE JOURNAL at this time.

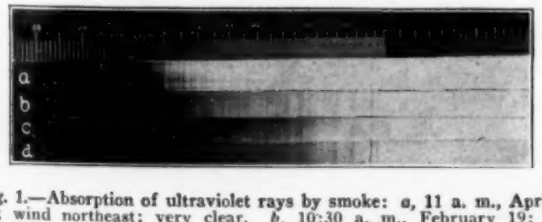

Fig. 1.—Absorption of ultraviolet rays by smoke: *a*, 11 a. m., April 10, 1927; wind northeast; very clear. *b*, 10:30 a. m., February 19; wind northeast; very clear. *c*, 3 p. m., February 19; wind northeast; very clear, but sun seen through smoke from the stockyards district. *d*, 2:45 p. m., February 23; wind southwest; clear; sun seen through smoke. Short wave length limit: *a*, 2,995; *b*, 3,030; *c*, 3,090; *d*, 3,090.

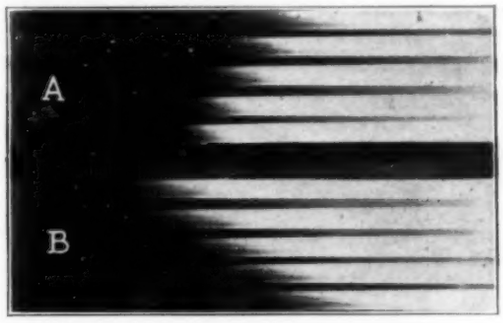

Fig. 2.—Spectrums for incandescent lamps (from five to eighty second exposures); 300-watt gas-filled lamps: series A, ordinary glass bulb; series B, Vitaglass bulb.

	Exposure, Seconds	Short Wave-Length Limit		Exposure, Seconds	Short Wave-Length Limit
A	5	3,150	B	80	2,800
	10	3,090		40	2,830
	20	3,050		20	2,900
	40	3,030		10	2,930
	80	2,980		5	3,030

Shortest Detectable Wave-Length on "All Day" Photographs of the Solar Spectrum *

Month	Day	Short Wave-Length Limit in Angstrom Units
November, 1926	28	3,035
	29	3,060
	30	3,040
December	1	3,035
	2	3,035
	3	3,035
	4	3,035
	5	3,035
	6	3,090
	7	3,090
	8	3,060
	12	3,100
	13	3,060
	14	3,030
	16	3,040
	17	3,035
	18	3,035
	19	3,060
	20	3,040
	21	3,035
	22	3,035
	23	3,035
	24	3,035
	25	3,035
	26	3,035
	28	3,150
January, 1927	15	3,040
	24	3,035
	25	3,035
February	2	3,035
	11	3,020
	24	3,025
March	3	3,015
	9	3,015
	15	3,000
	28	3,015
April	10	3,000
	17	3,000
	20	3,000
	27	3,000
May	7	3,000
	12	3,000
	16	2,990

* It should be noted that the measurements presented in this table agree very closely with those given in figures 1-6 where the records apply to the same days, although the data in this table are from plates taken with a diffraction grating and the photographs reproduced in the illustrations were taken with a quartz spectrograph.

In June, 1926, experiments were begun to arrange apparatus for the automatic recording of the sun's spectrum. Each day a photograph of the solar spec-

* From the Department of Health, City of Chicago, and the University of Chicago.

1. Report on Window Glass Substitutes, J. A. M. A. **88**: 1562 (May 14) 1927.

trum is taken on a portrait film. The photographs are calibrated by exposing them behind a uniform optical wedge for a fixed time to a light of fixed intensity. They are then developed in carefully measured solutions for a fixed time and at a fixed temperature. (The details of technic will be reported later.)

In the accompanying table we present the limits of the solar spectrum in Chicago on certain days between

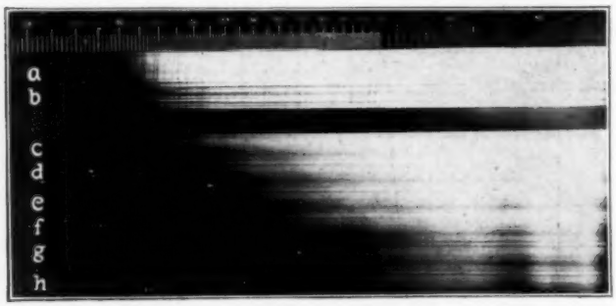

Fig. 3.—Transmission of sunlight and light from incandescent lamp through quartz and Vitaglass:

	Short Wave Length Limit
a, Sunlight through quartz: 30 seconds	2,995
b, Sunlight through Vitaglass: 30 seconds	3,010
c-h, light from 300-watt Mazda C lamp through Vitaglass	
c, 80 seconds	2,760
d, 40 seconds	2,790
e, 20 seconds	2,860
f, 10 seconds	2,960
g, 5 seconds	3,050
h, 2 seconds	3,140

Nov. 28, 1926, and May 16, 1927. For the periods November 28 to December 8, December 12 to 14 and December 16 to 28, the data are for the spectrums on successive days. For the period January 15 to May 16, we present the spectrum limits for that day in each week which, judged from weather bureau reports on wind and sunshine, was the clearest. Thus, in large part the data in the table were taken from plates selected to show most favorably the extreme spectrum limits in the ultraviolet region.

From direct inspection of the original plates it is plainly evident that the solar radiation reaching Chicago in the winter months is extremely poor in the spectrum region 3,200 to 2,900 angstrom units. Under the most favorable conditions, the last detectable lines are in the region of 3,100 to 3,050 angstrom units in November, December and January and are of extremely low

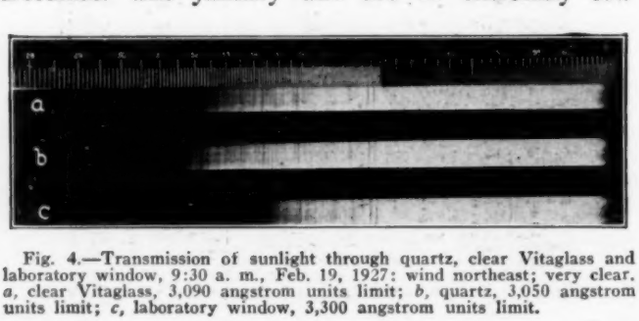

Fig. 4.—Transmission of sunlight through quartz, clear Vitaglass and laboratory window, 9:30 a. m., Feb. 19, 1927: wind northeast; very clear. *a*, clear Vitaglass, 3,090 angstrom units limit; *b*, quartz, 3,050 angstrom units limit; *c*, laboratory window, 3,300 angstrom units limit.

intensity there. In February, March and April the limits are in the region 3,040 to 3,000, and by May the limit is reduced to 2,990. These results are especially significant because of the recent observations of Hess and Weinstock.[2] These investigators report that the spectrum line at 3,020 angstrom units possesses marked antirachitic potency; the 3,130 line only very slight specific power to activate cholesterol; and lines of wave length shorter than 3,130, especially those shorter than 2,900 angstrom units exert even more potent antirachitic activating effects on cholesterol than those between 3,020 and 2,900.

On a number of occasions it has been feasible to study the effects of smoke in the city's atmosphere on the solar ultraviolet radiation. In March, when Chicago's atmosphere is commonly heavily laden with smoke, we have found that the solar spectrum usually does not show any appreciable light intensity below 3,100 angstrom units. Figure 1 presents for comparison the solar spectrums on:

(*a*) A clear day, April 10, 1927, with wind northeast (from Lake Michigan).

(*b*) A clear day, Feb. 19, 1927, with wind northeast, 10:30 a. m.

(*c*) Same day as *b*, at 3 p. m., with identical sky and wind conditions except that the afternoon sunlight path to the spectrograph traversed the smoke pall arising from the stockyards manufacturing district.

(*d*) A clear day, Feb. 23, 1927, with wind southwest and a smoke haze over the city.

It will be observed in figure 1 that on a clear day in April the sun's spectrum extended down to about 3,000 angstrom units. On February 19, clear, the spectrum limit was 3,030 angstrom units. The reduction of the spectrum limits by smoke, expressed in intensity, is

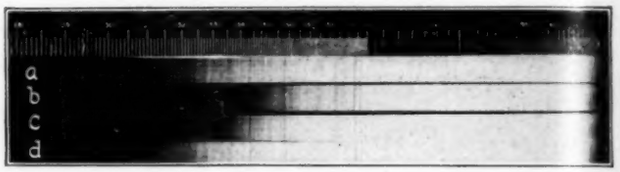

Fig. 5.—Transmission of sunlight, Feb. 19, 1927, through: *a*, quartz, 3,030 angstrom units limit; *b*, laboratory window, 3,280 angstrom units limit; *c*, thin glass, 3,230 angstrom units limit; *d*, quartz, 3,030 angstrom units limit.

much greater, however, than the change of 60 angstrom units in the limits would imply.

Because of the comparatively feeble ultraviolet intensities in the sunlight of the winter months, it was considered important to study certain artificial sources of ultraviolet radiation. The value of the mercury vapor arc lamp is too well known to need demonstration here. But the value of ordinary incandescent lamps has not been sufficiently investigated. Figure 2 presents the spectrums (for five, ten, twenty, forty and eighty second exposures) of the radiations from 300 Watt gas-filled Mazda lamps, one (upper series) with ordinary glass bulb and the other (lower series) with a bulb of Vitaglass (Lamplough). It will be noted in figure 2 that the lamp with the ordinary glass bulb emitted ultraviolet radiation comparable to sunlight in the winter months. The Vitaglass lamp was far richer in transmitted ultraviolet rays, the eighty second exposure detecting radiations as far as the region of 2,800 to 2,900 angstrom units.

From figure 3 it is apparent that clear Vitaglass[3] transmitted the ultraviolet rays in sunlight nearly as well as quartz. Furthermore, with a Mazda C lamp (300 watts) as a source of illumination, Vitaglass (eighty second exposure) transmitted the ultraviolet rays as low as 2,760 angstrom units.

2. Hess, A. F., and Weinstock, Martha: The Antirachitic Activity of Monochromatic and Regional Ultraviolet Radiations, Proc. Soc. Exper. Biol. & Med. **24**: 759 (May) 1927.

3. Sample provided by the Vitaglass Corporation, New York.

Figures 4 and 5 present some transmission spectrums for sunlight passed through quartz, clear Vitaglass, the laboratory window glass and a piece of thin window glass. The advantages of Vitaglass over ordinary glass are plainly evident in the greater ultraviolet transmission permitted by the former.

Figure 6 presents comparison spectrums for the transmission of sunlight through quartz, clear Vitaglass

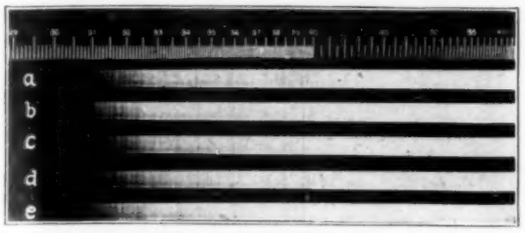

Fig. 6.—Transmission of sunlight, June 1, 1927, 3 p. m.; exposures, thirty seconds; wind, north; slit, 3.5; very clear; through: *a*, M. G. Company glass, 1.9 mm. thick, 3,000 angstrom units limit; *b*, quartz, 2,980 angstrom units limit; *c*, clear Vitaglass, 2 mm. thick, 3,000 angstrom units limit (faint); *d*, M. G. Company glass, 3,000 angstrom units limit; *e*, quartz, 2,980 angstrom units limit.

and a sample of M. G. Co. glass.[4] The two window glass substitutes tested here gave almost exactly the same results, both transmitting the sunlight available on the day of the test to 3,000 angstrom units.

SUMMARY AND CONCLUSIONS

1. Comparatively little ultraviolet radiation of known physiologic significance appears in the sun's spectrum during the winter months in Chicago.
2. The ultraviolet rays are absorbed to a significant degree by smoke in the atmosphere.
3. Incandescent lamps (of 300 watts) emit radiations in the ultraviolet region which are of physiologic interest.
4. Transmission spectrums for window glass and certain window glass substitutes confirm the reports of other investigators and of the Council on Physical Therapy on relative permeabilities to the ultraviolet radiations.

The relations between the seasonal variations of the solar spectrum and of morbidity and mortality will be reported later.

4. Sample provided by the Manufacturers' Glass Company, Chicago.

Nature of Auricular Fibrillation.—A great deal of experimental work has been done on the results of high-speed direct stimulation of the heart's auricular appendix. It is found that when the stimulation speed rises to from 300 to 500 a minute the ventricular responses are usually grossly irregular in force and rhythm. In some cases cessation of stimulation is not followed by return to normal rhythm, but the events in the heart continue exactly as if electrical stimulation were still going on. . . . The condition is known as circus movement. . . . When, however, the speed of circus movement in the auricular muscle rises to 450 a minute or thereabouts the path of the circuit is constantly changing, as is the path of the offset waves, the progress of both being constantly impeded by fibers still fatigued, and therefore refractory to stimulation. The result is an irregular circus movement, constantly changing its course, and irregular offset waves which may, or may not, succeed in traversing the whole of the auricular muscle sheet. From this it follows that the arrival of impulses at the auriculoventricular junctional tissue will be both high in speed and irregular in rhythm. The consequent ventricular responses will show a like result, and the ventricular stroke, therefore, becomes grossly irregular and of high speed. This condition constitutes auricular fibrillation.—Langley, G. J.; Nature and Treatment of Auricular Fibrillation, *Brit. M. J.*, June 11, 1927.

A RAPID AND SIMPLE METHOD OF DETERMINING NERVE INJURIES IN THE EXTREMITIES

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The late discovery of a nerve injury in a traumatized extremity, particularly when following the débridement of a wound, the adjustment of a dislocation, the setting of a fracture or the application of a splint, is a serious event in the experience of the traumatic surgeon, and certainly the burden of responsibility rests on that surgeon who only after some operative intervention on an extremity discovers the presence of a nerve injury that was not mentioned in the preoperative records. As a rule, the average surgeon feels that the examination of an extremity for a nerve injury is a process requiring considerable technical skill and neurologic knowledge, and that such an examination, to be reliable, should be made by a neurologist. While this is true in some respects, it nevertheless does not excuse the surgeon for overlooking and neglecting a nerve injury. It is commonly believed that to examine an extremity for a nerve injury, splints and dressings must be removed, thereby jeopardizing the position of fractures and risking infection of wounds. It is possible, by simple tests which may be conducted within a few seconds, to determine definitely the presence or absence of injuries to important motor nerves of the extremities when observation permits only inspection of the hand or foot,

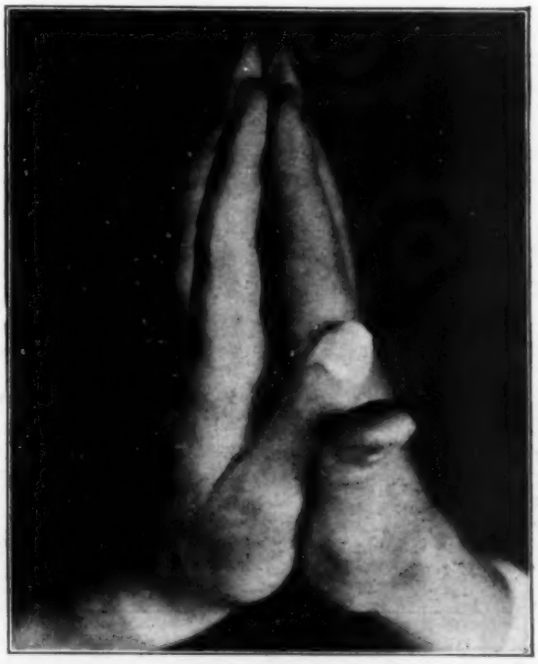

Fig. 1.—Musculospiral nerve paralysis: normal extension of the thumb of one hand and inability to extend the thumb of the other, denoting a musculospiral paralysis, manifest in the loss of complete thumb extension.

and no preoperative record of a traumatized extremity is complete without this information.

In my observation and treatment of more than 1,500 nerve injuries while in military service, and some 200 occurring in civil life, systematic examination has revealed that these injuries, with very rare exceptions, all involve, to some degree, even in the slightest injuries,

the motor function of the fingers and toes, and that, with the exception of the upper arm type of brachial plexus lesions, an inspection of movement in the fingers and toes will reveal nerve involvement. Isolated injuries to the musculocutaneous, circumflex and anterior crural nerves are rare, and, excepting the upper arm type of brachial plexus lesions, injuries to the circumflex and musculocutaneous practically always involve either the median, ulnar or musculospiral. The upper arm type of brachial plexus lesion may be readily determined by paralysis of the deltoid, biceps or triceps—most commonly all three. Injuries to the anterior crural nerve resulting in complete loss of extension of the leg are exceedingly rare, as the nerve on leaving the abdominal cavity has divided into a number of branches, all of which are rarely involved, and in serious injuries the involvement of the adjacent femoral artery completely overshadows the nerve lesion.

An injury to the musculospiral nerve in any part of its course, even to the lowest portion of the posterior interosseus nerve, will result in loss of extension to the thumb. Therefore, inability to extend the thumb completely immediately suggests a musculospiral involvement.

With the median nerve, injury in any location will affect the opponens pollicis, making it impossible to oppose the palmar surface of the thumb to the pads of the extremity of the fingers. While it may be possible to flex the terminal phalanx of the thumb through the long extensor, or the first phalanx by action of the flexor brevis pollicis, which is partially supplied by the ulnar nerve, it is impossible to rotate the thumb over the palm.

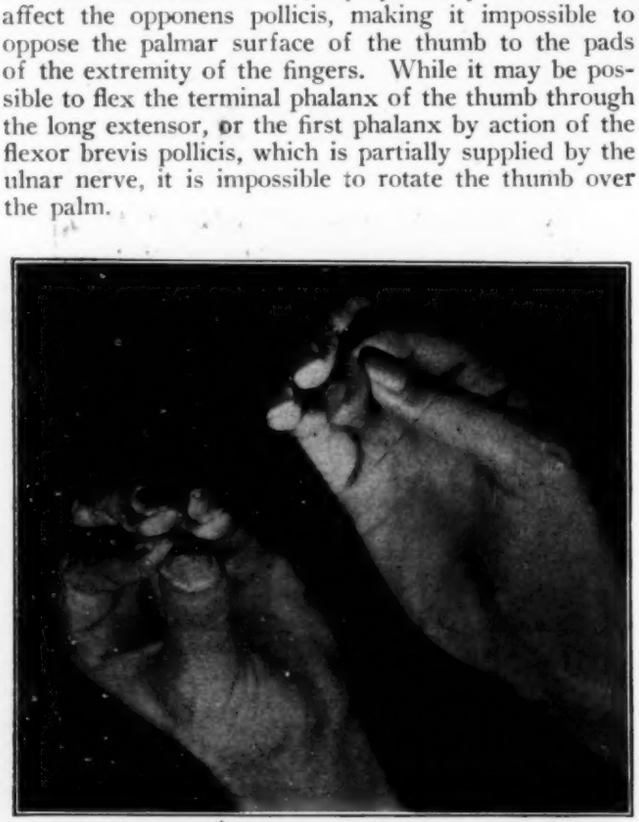

Fig. 2.—Median nerve paralysis: five fingered cone of one hand, denoting normal median and ulnar nerve intrinsic hand muscle function; of other hand, a four fingered cone, denoting normal ulnar nerve function and median nerve paralysis, in that the thumb cannot be opposed to the center of cone—it rests on the side of the index finger.

In injuries of the ulnar nerve, the interosseus muscles are conspicuously involved, which prevents lateral movement of the fingers. Examination of the fingers will reveal the absence of these lateral movements by the inability to make the fingers into a cone; that is, bunching the ends of the fingers. Normal ulnar motor action will permit the formation of a four finger cone; normal median nerve action will permit the rotation of the thumb and the placing of its palmar surface against the tips of the ulnar cone, making a five finger cone. A patient able to make a five finger cone with the tips of his fingers does not have motor disturbance involving the median or ulnar nerve. Therefore, the test of making a five finger cone and the extension

Fig. 3.—Ulnar nerve paralysis: normal five fingered cone of one hand; the other hand, unable to make a four fingered cone, shows ulnar nerve paralysis; apposition of thumb possible, demonstrating a normal median nerve.

of the thumb will immediately determine the presence or absence of a musculospiral, median or ulnar nerve injury.

Musculospiral injuries may be further confirmed by determining the presence of anesthesia over the dorsal surface of the base of the thumb, and also inability to elevate the wrist and extend the fingers at the metacarpophalangeal joint. If the patient can make a four finger cone, but is unable to oppose his thumb to the finger tips to make a five finger cone, he has a median nerve paralysis, which may be confirmed by determining the loss of sensation in the palmar surface of the first three fingers and by the inability to flex the index finger when the other fingers are extended. A patient who is unable to make a four fingered cone has an ulnar paralysis which may be confirmed by determining the loss of sensation in the little finger, and by testing the action of the interosseus muscles in individual lateral movements of the fingers.

In examination of the lower extremities to determine the presence of an injury to the sciatic trunk or its two terminal divisions, the tibial and peroneal nerve, it is usually sufficient to inspect movement in the toes. If the toes can be extended, one may readily conclude that the peroneal nerve and the peroneal portion of the sciatic (external popliteal) has escaped injury. If the toes can be flexed, the tibial nerve (internal popliteal) and the tibial portion of the sciatic have escaped injury. If the patient is unable to extend the toes, a peroneal injury may be confirmed by the loss of sensation in the cleft between the great and second toe—also by the loss of dorsal flexion in the foot (extension). The inability to flex the toes means an injury to the tibial nerve or the tibial portion of the sciatic, which may be confirmed by loss of sensation in the sole of

the foot and the toes, and the inability to plantar flex the foot.

The simple tests of making a five fingered cone and extending the thumb, and of determining upward and downward movement of the toes and foot, will readily assist the surgeon in determining the presence or absence of important nerve injuries in the extremities, with the very rare exceptions mentioned.

In determining the presence of a nerve injury and confirming the observations by sensory tests, the surgeon may save himself considerable future embarrassment, be able to modify his prognosis accordingly, and institute proper treatment and correct splinting to prevent overstretching of paralyzed muscles.

853 Seventh Avenue.

REDUCTION OF CERVICAL DISLOCATION

REPORT OF A SUCCESSFUL CASE

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Cervical dislocations without fatal results are of more frequent occurrence than is generally thought. Because of its supposed rarity cervical dislocation has not received the attention and investigation that its importance deserves. However, the condition has been rather fully discussed by Walton [1] and Scudder,[2] and cases have been reported by Barnett,[3] Erickson,[4] Huff,[5] Langworthy,[6] Speed,[7] Wusthoff [8] and others.

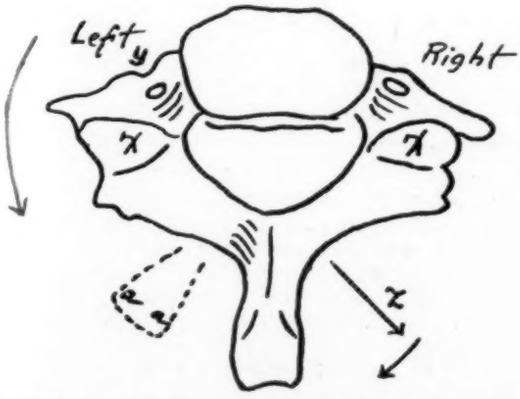

Fig. 1.—Direction of tilting and rotating in reduction (Walton).

These dislocations are produced by carrying the movements of rotation and abduction beyond their normal limits, by any force which overabducts or overrotates the upper part of the spinal column. The force may be an external one or one developed by the muscles attached to the head (Stimson).

The symptoms vary greatly from paralysis or death when there is compression of the cord, as usually occurs in bilateral dislocation, to a posture of the head simulating a torticollis, and they may even go unrecognized.

Fig. 2.—Appearance of patient before reduction.

A painful prominence can often be noticed on the dislocated side.

Even when paralysis or special pain is not present, there is usually considerable disfigurement and the relief of the condition is much desired. By the method of Walton, such relief is easily obtained when the relation of the anatomic parts involved is thoroughly understood. However, fracture sometimes occurs and should be considered before reduction is attempted.

In the complete unilateral dislocation, the articular process of one vertebra slips forward and falls down into the intervertebral notch of the vertebra below. This accident can easily happen because of the horizontal position of the articular processes (Spalteholz). The ligaments then hold the vertebra in the new position and the muscles play little part. As a result, the head is tilted to one side and twisted so as to produce a position similar to torticollis. In the new position the head is immobile; the muscles are lax on the side which would have produced the deformity and tense on the opposite side.

The essentials of Walton's plan of reduction, as worked out by him in a series of experiments on the cadaver and used clinically, are: (1) dispensing entirely with extension, and (2) using only retrolateral flexion and rotation.

The proper method is simply to raise the depressed process and rotate. This can be accomplished only by extending the head obliquely backward toward the right or left as the case may be and using the transverse process on the same side as a fulcrum. The ligaments

1. Walton, G. L.: Reduction of Cervical Dislocation: A Successful Case, Boston M. & S. J. **129**: 553 (Dec. 7) 1893; A New Method of Reducing Dislocation of Cervical Vertebrae, J. Nerv. & Ment. Dis. **20**: 609 (Sept.) 1893.
2. Scudder, C. L.: The Treatment of Fractures, Philadelphia, W. B. Saunders Company, 1922.
3. Barnett, C.: A Case of Bilateral Dislocation of the Cervical Vertebrae, with Recovery of the Patient, Fort Wayne M. J. **25**: 228 (June) 1905.
4. Erickson, N.: Fracture of the Second Cervical Vertebra with Anterior Dislocation, M. Rec. **100**: 1140, 1921.
5. Huff, O. N.: A Case of Bilateral Cervical Dislocation: Reduction and Recovery, Chicago M. Rec. **8**: 350 (May) 1895.
6. Langworthy, Mitchell: Bilateral Forward Dislocation of the Fifth Cervical Vertebra with Reduction by Manipulation, J. A. M. A. **76**: 447 (Feb. 12) 1921.
7. Speed, Kellogg: Dislocation of the Cervical Vertebrae, Ann. Surg. **66**: 644 (Dec.) 1917.
8. Wusthoff, Rudolph: Luxation Fracture of the Joint Between the Atlas and Axis, Deutsche Ztschr. f. Chir. **183**: 73, 1923.

which have held the vertebra firmly in its faulty position do not offer opposition to this movement, so that force is not required first to elevate in this way and then to rotate to the proper position. Walton, quoted by Scudder,[2] demonstrated this method as follows:

The diagram [fig. 1] shows the upper surface of the lower of the two vertebrae concerned, that is, the one in normal position. The articular processes of this vertebra are marked *x, x*. The *left* articular process of the vertebra above having slipped into the intervertebral notch *y*, the situation of its spinous process will be indicated by the dotted lines *a, a*. The direction in which the head must be tilted for reduction is indicated by the line *z* (in other words, if the patient is facing the north the head must be tilted southeast). Slight rotation in the direction of the short curved arrow on the right of the diagram may be necessary to free the process. After the articular process is freed, rotation into place in the direction

Fig. 3.—Appearance after reduction.

of the long curved arrow on the left of the diagram will complete reduction. In case the *right* articular process has been displaced by the dislocation, these movements should be reversed.

The patient should be thoroughly anesthetized (nitrous oxide), and should be in the sitting position. This gives freedom of movement and prevents confusion of the proper movements of reduction.

REPORT OF CASE

M. H., a girl, aged 12, brought to St. Elizabeth Hospital, Appleton, Wis., Nov. 10, 1926, had been forcibly thrown from an automobile when the auto was hit by an interurban car. She was picked up in an unconscious condition and remained so for eighteen or twenty hours after entrance into the hospital. When she regained consciousness she complained of some headache, stiffness and pain in the neck, and inability to turn her head. Her past and family history were entirely negative.

On examination it was noted that the head was turned to the left; the face was also bent toward the left side, and she held the neck and head in a rigid manner (fig. 2).

There was a tender, palpable, firm mass on the left side of the neck just below the hair line. The patient was unable to turn her head except to a very limited degree and then to the left only, and she complained of pain and discomfort in the neck when an attempt was made to turn her head.

There were minor abrasions and contusions of the face, left eye and left shoulder.

The superficial and deep reflexes were normal and there were no sensory disturbances.

Roentgenograms revealed a displacement forward and to the right of the atlas and axis on the third cervical vertebra, and there was distinct angulation between the third and the second and first cervical vertebrae in the anteroposterior direction. There was only a slight narrowing of the neural canal, but no evidence of fracture. However, there was a fracture without separation of the inner extremity of the right zygomatic arch.

November 20, under nitrous oxide-oxygen anesthesia, the dislocation was reduced by the method of Walton and a light plaster cast applied to the shoulders, neck and head. The patient was put in bed flat on her back but the next morning it was observed that the dislocation had recurred. Two days later it was again reduced, and a snug plaster collar about 3 inches wide was put around the neck and over this a fairly heavy cast which included the shoulders, neck and head was applied. The patient was kept in bed for one week, and then sent home. Four weeks after reduction the cast was removed, and she was able to move the head in all directions. Five months later the patient is well, and there is no deformity (fig. 3) or limitation of motion.

PRELIMINARY DIVERTICULOSTOMY IN DIVERTICULUM OF BLADDER

UNUSUAL CASE AND METHOD OF OPERATION

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Diverticulum of the bladder is fascinating from a surgical standpoint, and the problems to which it gives rise are of never ending complexity. The case reported here will illustrate the surprises it may hold in store for the surgeon:

REPORT OF CASE

H. A., aged 73, a widower, seen at the Park Avenue Hospital at the request of Dr. Alvah S. Miller, Oct. 21, 1925, had always been well and strong, not having had illness during his life until about five or six years before, when he noticed slight difficulty in starting the urinary stream and slight frequency of urination. The difficulty increased. The frequency never became very pronounced. During this period the general health became impaired; the bowels became very constipated and the mind less clear.

Five weeks before, while away on a vacation, the patient was found lying on the floor in convulsions and foaming at the mouth. After being in bed for some days, while still unconscious, he was brought back to Rochester. At that time the blood nonprotein nitrogen was very high—in the neighborhood of 200. The treatment was by rest in bed, bland diet, and forcing of fluids. The patient gradually improved for a period of a month, at which time he was out of bed part of the time and the mind comparatively clear. At this point, however, improvement ceased. When first seen the patient was voiding four or five times during the day and six or seven times at night. Urination was difficult and painful. The blood nonprotein nitrogen was 32; creatinine, 1.5. The urine contained pus and in the preceding two days there had been slight fever, rising to 101 F. There had never been any urethral instrumentation. The patient suffered from insomnia and mental depression and was very constipated.

Examination showed the patient to be well nourished, with skin and mucous membranes of good color. The tongue and lips were dry. The pulse was regular, and of good force and

rhythm. No mass or tenderness existed in either kidney region. The abdomen was normal except for an area of flatness extending four finger-breadths above the symphysis and within an inch of the umbilicus. Pressure over this region was slightly painful. The external genitalia were normal. Rectal examination showed a markedly enlarged prostate, which was smooth, round, elastic and not adherent. The seminal vesicles were slightly corded, but otherwise normal. There was moderate edema of the ankles. Urinary obstruction, due to an enlarged prostate, was present, and in spite of the rather surprising fact that the blood nitrogen had returned to normal while the obstruction was still unrelieved, it was felt that drainage of the distended bladder was necessary. Efforts to introduce a catheter were unsuccessful, all types being arrested in the prostatic urethra.

October 22, under gas and oxygen anesthesia, a median suprapubic incision was made, exposing a markedly distended organ which was thought to be the bladder. Incision allowed a quantity of urine to flow out, and a large mushroom catheter was put in place. It was noted at the time that the wall of the bladder seemed extremely thin. No intravesical palpation was attempted, the patient's condition being considered precarious. The bladder capacity was 750 cc. Following the operation the patient did very well and showed marked improvement. The systolic blood pressure, which before the operation had been 180, fell to 150.

November 9, a cystoscope was inserted through the suprapubic fistula, showing what appeared to be the interior of the bladder. The walls were everywhere smooth and pale, and a good sized calculus was seen. In the right lateral wall of this cavity was a large diverticular orifice. The base of the bladder did not show any of the usual landmarks, and it was impossible to locate ureters, trigon, urethral orifice or prostate. The area where they should have appeared was occupied by a smooth, round convexity. The cystoscope was then passed through the diverticular orifice. More stones were seen within the second cavity, and the mucous membrane lining it was much rougher and more reddened. It was

Fig. 1.—Appearance after diverticulostomy, showing drainage tube in diverticulum, deflected to left. The three stones to the left are in the diverticulum; the two to the right in the bladder.

impossible to explore the more distant parts of this cavity. November 19, in order to estimate the size and location of the diverticulum, a cystogram was taken, 250 cc. of 5 per cent sodium iodide being introduced through the drainage tube. A plain roentgenogram had shown several good sized stones lying in the bladder region (fig. 1). The cystogram (fig. 2) showed the drainage tube leading into a large, pear-shaped cavity, with very clear regular outlines, situated in the left half of the pelvis. This communicated, by a narrow passage, with another cavity of about the same size, pushed over into the right half of the pelvis, which by its irregular outlines was identified as a trabeculated bladder. In the lower portion of this shadow was a filling defect, apparently due to a large intravesical prostatic lobe. It now became evident that at the time of operation the large diverticulum had pushed up in front of the bladder and that the drainage tube had been placed in the diverticulum and not in the bladder at all. When the cystoscope had been passed through the diverticular orifice it had gone, not into the diverticulum, as was thought at the time, but into the bladder proper.

Fig. 2.—Cystogram made by introducing 250 cc. of 5 per cent sodium iodide solution through drainage tube. The diverticulum has contracted after drainage and now occupies the left side of the pelvis. It is pear-shaped and perfectly smooth in outline, and is connected with the bladder by a moderate sized opening. The bladder, which is pushed to the right, is markedly trabeculated. In its lower portion is a filling defect due to the large intravesical median lobe. The outline of the extravesical portion of the prostate is shown below, apparently by a thin layer of calcification about its periphery.

December 9, six days after the patient had received a transfusion of 800 cc. of citrated blood, which had a very beneficial effect on his general condition, operation was performed, with the idea of removing the diverticulum and the stones, and then, if the patient's condition permitted, of enucleating the prostate.

Under ethylene anesthesia, a median suprapubic incision was made, encircling the fistula. The fistula was then dilated sufficiently to admit Young's prostatic tractor, which was opened out within the diverticulum. Pulling the diverticulum upward with this instrument, the dissection was rapidly and easily carried downward on each side of, and below, the fistula, freeing the diverticulum laterally and from the posterior surface of the symphysis. Attention was then turned to the upper aspect of the fistula, where, by dissecting on the tractor within the diverticulum, it was easily possible to separate the reflection of the peritoneum, which came very close to the fistula (fig. 3). As soon as the reflection was found, a good line of cleavage appeared which enabled the peritoneum to be pushed back without injury. Still pulling the diverticulum upward with the tractor, one found the remainder of the process of freeing it down to its attachment with the bladder very easy and rapid. When this point was reached it was split, the edges were seized with clamps, and it was then cut off flush with the bladder. With it were removed three large calculi. The opening into the bladder was then enlarged downward, and two more large calculi were removed from the bladder proper. Palpation showed a single, large, intravesical median lobe without any intravesical lateral enlargement. At this time the patient's pulse was 84 and of good quality, and the general condition excellent. It was therefore determined to proceed with the removal of the prostate, which was done in the usual manner, the median lobe and two extravesical lateral

lobes being enucleated. A Hagner bag was drawn into the prostatic cavity, arresting all hemorrhage, and the bladder incision was then closed about a large fenestrated drainage tube. A good sized rubber drain and a small gauze pack were then placed in the cavity left by the removal of the diverticulum, and the abdominal wall was closed in the usual manner. At the end of the operation the patient was slightly pale, but the pulse was only 90; 2,000 cc. of salt solution was given subcutaneously.

The suprapubic fistula closed, Jan. 16, 1926, thirty-eight days after the operation. The urethra and vesical orifice were dilated on three occasions with the Kollmann dilator. The patient left the hospital, February 1, fifty-three days after the operation. At this time he was walking about, voiding freely and painlessly, and with perfect control, although there was still some frequency. The urine showed a small quantity of pus but was otherwise normal. Examination of the removed prostate showed that it consisted entirely of benign

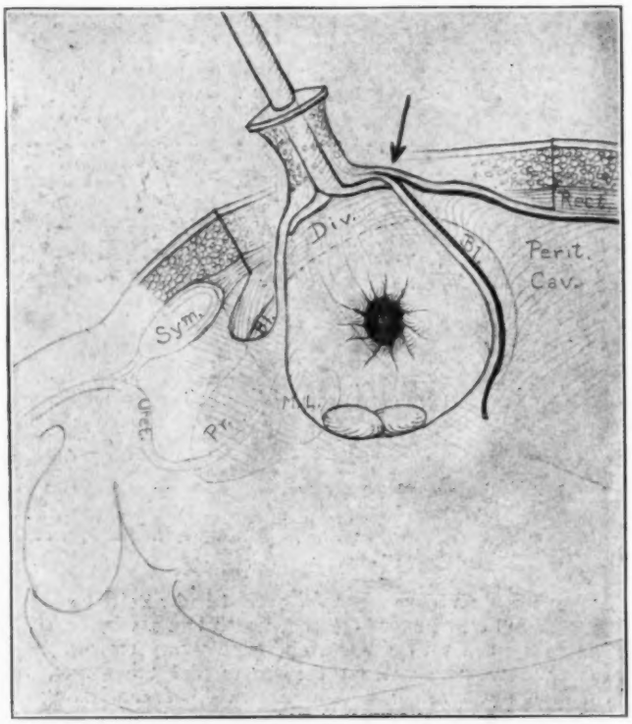

Fig. 3.—Diagrammatic sketch showing diverticulum pulled up by Young's prostatic tractor, passed through the fistula. Arrow indicates point at which dissection of peritoneal reflection from diverticulum was begun. *Sym.*, symphysis pubis; *Uret.*, urethra; *Pr.*, prostate; *M. L.*, median lobe; *Bl.*, bladder; *Div.*, diverticulum; *Rect.*, rectus abdominalis; *Perit. Cav.*, peritoneal cavity.

epithelial hypertrophy except for one tiny area corresponding to Albarran's "epitheliome adenoide."

The patient was perfectly comfortable and had no further urinary difficulty while at home. About June 1, six months after the operation, he suffered two cerebral attacks, the first of which caused left hemiplegia, while the second proved fatal.

COMMENT

The size and location of the diverticulum in this case were very unusual. It had evidently originated from a point considerably higher on the left lateral wall of the bladder than is the usual site of diverticulum formation, so much so that as it enlarged it pushed forward into the prevesical space rather than backward or upward, and at the time of the cystostomy it had passed well beyond the median line. The misconception to which this gave rise was not cleared up until the cystogram was taken. This misconception, however, was without evil consequences since drainage of the diverticulum instead of the bladder had no disadvantages, but indeed was advantageous, since the urine, entering the bladder from the ureters and leaving the diverticulum through the drainage tube, passed through both bladder and diverticulum, and there were therefore no undrained areas in which infection could develop, as does occur when the drainage tube is placed in the bladder instead of in the diverticulum.

The presence of the fistula leading into the diverticulum provided a further advantage at the time of operation, since it enabled an instrument to be placed at once in the diverticulum, with which it was drawn up and its dissection tremendously facilitated.

The method by which a diverticulum should be removed depends entirely on its size and relationships to other organs. There is no doubt that diverticula developing posteriorly and lying for the most part behind the bladder are best removed by an intravesical operation, in which the diverticulum is preferably drawn up into the bladder and amputated. When the diverticulum lies laterally, or, as in this case, anteriorly, or when it is at the vertex of the bladder, the extravesical method is preferable in many cases. The experience in this case shows clearly, I believe, that when the cystogram indicates that the diverticulum reaches the midline, or even approaches within reasonable distance of it, it is well to perform diverticulostomy rather than cystostomy, whenever preliminary bladder drainage is indicated. The advantages of this procedure are particularly apparent in cases in which the diverticulum is heavily infected. By causing a continuous flow of urine through the diverticulum, stagnation is avoided and infection more easily reduced. When the time arrives for diverticulectomy, the fistula provides an easy path to the diverticulum and a means of producing traction on it without delay. This is particularly desirable when the diverticulum lies in close contact with the peritoneum.

The further lesson to be drawn from this case is the always valuable one that surprising results can be accomplished in cases, apparently the most unfavorable, by careful and cautious work, care always being taken that the patient is equal to the procedure contemplated. Preliminary drainage by cystostomy or retained catheter, copious administration of fluids, transfusion and digitalis will work wonders in restoring the patient suffering from urinary retention and enable him eventually to withstand, without difficulty, operative procedures which would surely be fatal if attempted too soon, but which, when properly carried out, will restore him to health.

289 Alexander Street.

Roentgen Ray in Diagnosis of Pulmonary Disease.—The appearance of the youngest tubercle is unknown, though some believe it represented by the minute, ill defined shadows designated "budding twig," "pussy-willow," "cottony" or "snowflake" irregularities seen along the radiations of the bronchovascular tree in the subapical and apical regions of the lungs. Probably the premise is more sound than when the film shows in the upper third of the chest what is termed a "cirrhus cloud," or "soft spotty mottling," or infiltration, the conglomerate tubercle is visualized. Such shadows are denser at the center and fade out toward the periphery to margins that are more or less hazily defined. When coalescence of such areas occurs, light areas may be seen in the zone of confluent density, indicating that consolidation is not complete. Necrosis or caseation is indicated by the appearance of areas of paling or of clearing. . . . The evolution of such changes can be studied with the aid of a series of roentgenograms.—Austrian, C. R.; *Am. J. M. Sc.*, June, 1927.

FURTHER EXPERIMENTAL STUDIES IN CHOLECYSTOGRAPHY

PATHOLOGIC OBSERVATIONS *

JULIUS FRIEDENWALD, M.D.
MAURICE FELDMAN, M.D.
AND
FRANCIS X. KEARNEY, M.D.
BALTIMORE

Since the introduction of tetraiodophenolphthalein into medicine for purposes of visualizing the gallbladder, attention has frequently been directed by various observers to the toxicity and the hepatic and renal lesions produced by this dye. Graham and Cole [1] were able to note toxic effects only when large doses were administered intravenously. However, Ottenberg and Abramson [2] have reported the production of extensive degeneration amounting almost to necrosis of the liver lobules following the injection of a 5 per cent solution of the dye in doses of from 0.3 to 0.4 Gm. per kilogram of body weight. Lesions were found in addition in the kidneys and spleen. The urine showed large amounts

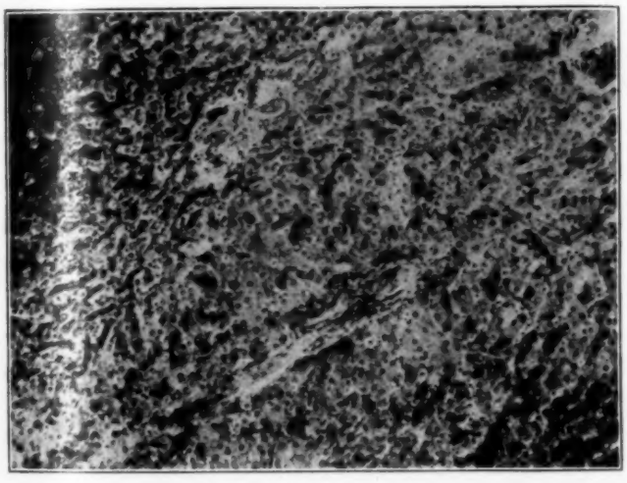

Fig. 1.—Section of kidney (low power): moderate cloudy swelling with slight arterial injection.

of the injected dye, albumin, casts, and in some instances hemoglobin. Larger doses killed the animals at once or within fifteen minutes with acute convulsive seizures. They note, however, that the doses required to produce symptoms and lesions in the liver were enormously larger than those employed in the tetrachlorphenolphthalein liver function test. They further state that "the amount of tetrabromphenolphthalein used for gallbladder visualization is also safely below the toxic doses; the margin, however, is not so large and suggests the necessity of caution in cases in which the liver parenchyma is already damaged by disease."

Rosenau [3] also cautions against the indiscriminate administration of the dye, and points to clinical and experimental work as indicating the possibility of liver injury following its injection. He concludes that because of the toxicity of the halogenated phthalein compounds they should be employed cautiously and only in moderate doses.

As the oral method of gallbladder visualization is nowadays practiced to a large extent, thus replacing the intravenous method, the question presents itself as to whether a similar toxic effect or liver injury might arise as the result of this method of administration.

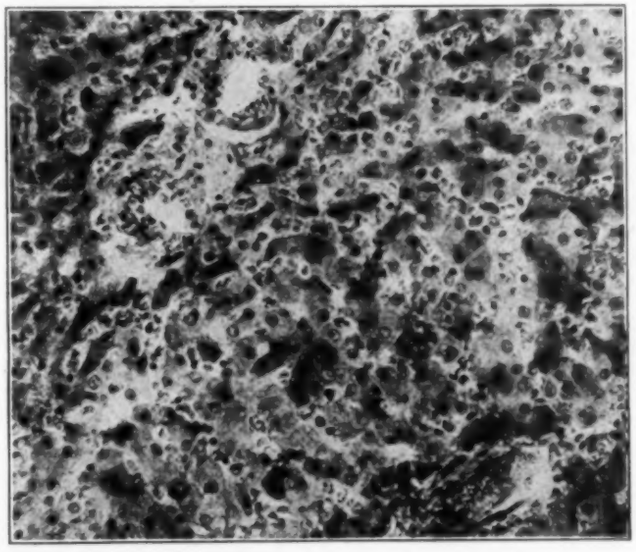

Fig. 2.—Section of kidney (high power).

This appears the more important to us, since in the experimental work that has been reported up to the present, the dye has been administered intravenously.

It is of interest to note that Abel and Rowntree [4] in their original experiments, as far back as 1909, report

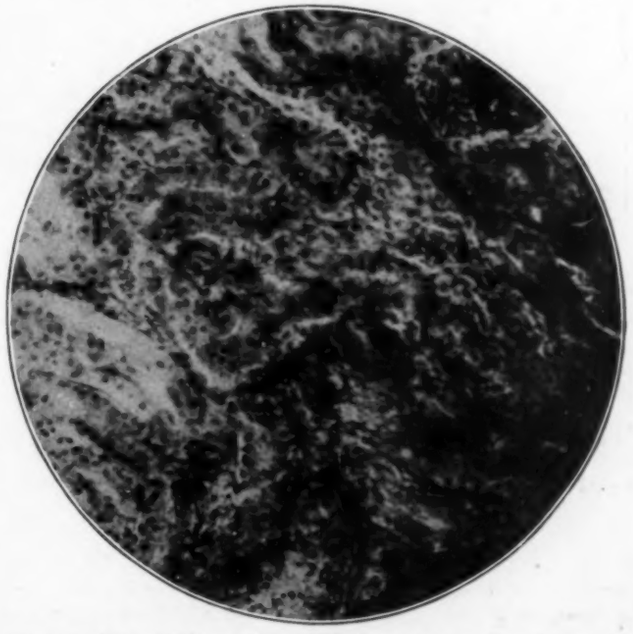

Fig. 3.—Section of liver (low power): hyperemia, moderate edema and moderate fatty changes.

that when phenolphthalein or its tetrachlor derivatives were administered to animals, ill health did not result. In numerous autopsies lesions could not be detected that could be referred to these compounds, and the liver showed no abnormality.

* From the Department of Pathology and the Gastro-Enterological Clinic, University of Maryland School of Medicine.

1. Graham, E. A., and Cole, W. H.: Roentgenologic Examination of the Gallbladder, J. A. M. A. **82**: 613 (Feb. 23) 1924.
2. Ottenberg, Reuben; and Abramson, H. A.: Production of Liver Necrosis, J. A. M. A. **84**: 800 (March 14) 1925.
3. Rosenau, W. H.: Dangers in the Use of Certain Halogenated Phthaleins as Functional Tests, J. A. M. A. **85**: 2017 (Dec. 26) 1925.
4. Abel and Rowntree: J. Pharmacol. & Exper. Therap. **1**: 231, 1909.

As there still appears to be some doubt with regard to the degree of toxicity and the lesions that may be produced by this dye when administered by the oral route, it seemed to us that further experimental evidence was needed to solve this problem definitely. This appears the more important, as at times the dosage of tetraiodophenolphthalein required in cholecystography must necessarily be extremely large.

In the course of our recently reported experiments [5] on cholecystography by the oral route, large doses of the dye were administered by mouth and directly into various parts of the small bowel at frequent intervals.

Twenty-one dogs were utilized in these experiments. The quantity of tetraiodophenolphthalein administered to each varied between 3.8 and 31.6 Gm., given in divided doses within a period of less than two months. Three dogs not given dye were utilized as controls. These animals were finally killed and the liver and kidneys removed for histologic examination. In a single dog, before any dye was given, a small portion of the liver was excised for a similar purpose, and later

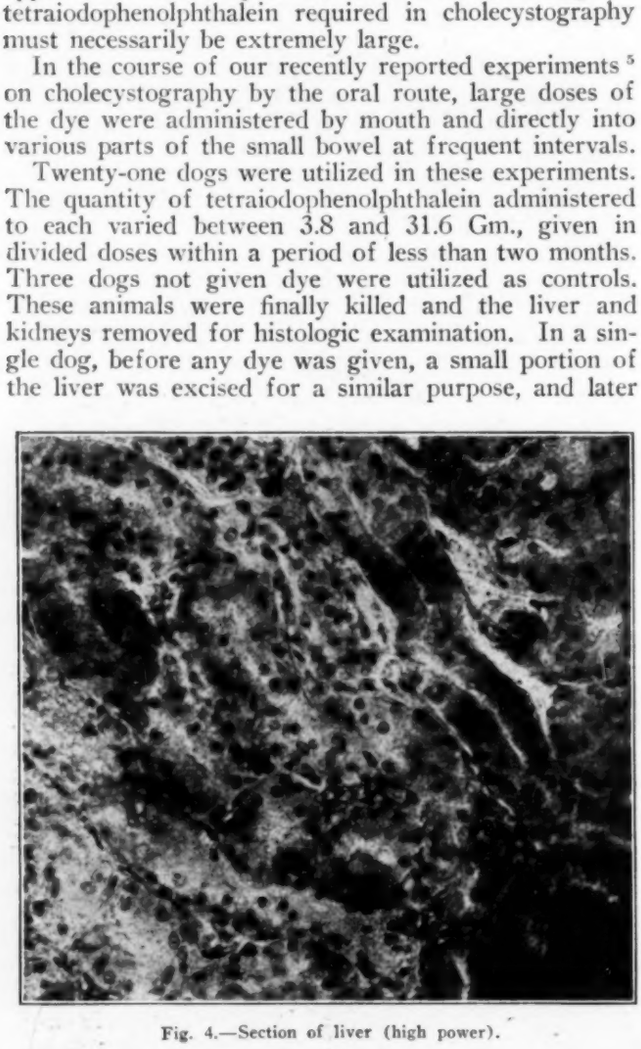

Fig. 4.—Section of liver (high power).

compared with another portion of the liver of the same dog, removed following the administration of the dye. In no instance could the death of any of the dogs be attributed to the toxic effect of the dye. The cause of death was due, either to the shock of the operation, excess of ether, or, finally, to starvation.

The histologic conditions noted in the kidneys and liver were as follows: (1) normal; (2) congestion; (3) cloudy swelling; (4) early fatty changes; (5) small round cell infiltration about the bile ducts, and (6) moderate fibrosis about the bile ducts. Similar changes were noted in our normal and control dogs, as well as in the dog whose liver was examined before as well as after the administration of the dye. Regardless of the quantity of dye given, all the dogs showed some of the histologic changes just noted. These changes are frequently postmortem conditions, and are observed in dogs dying from starvation or as a result of the ether. In no instance was there evidence of degeneration or of necrosis as has been reported by other observers.

5. Friedenwald, Julius; Feldman, Maurice; and Kearney, F. X.: Radiology, to be published.

In five instances in which catheterized specimens of urine were examined following the administration of large doses of the dye, no abnormal conditions were revealed. This is entirely in accord with our observations in human beings following the use of the dye for gallbladder visualization.

It is interesting to note that, contrary to the observations of Abel and Rowntree, the dye is absorbed not only in the large bowel but also in the small intestine. By tying off the first portion of the duodenum and also the terminal ileum and injecting a large quantity of the dye into the second portion of the duodenum, we were able to visualize the gallbladder satisfactorily in three dogs. This indicates that absorption takes place not only in the large but also in the small intestine.

As an explanation of the failure of others to obtain absorption of the dye in the small intestine, our former experiments reveal that the gastric acidity is so high in dogs as to acidify the contents of the small bowel to such a degree as to prevent absorption. This is due to the transformation of the dye into an insoluble salt.

CONCLUSIONS

From these experiments it is evident that when tetraiodophenolphthalein is administered orally for purposes of cholecystography, even when given in massive doses, it does not produce degenerative or necrotic changes in the liver or kidneys.

1013 North Charles Street.

Clinical Notes, Suggestions and New Instruments

GUNSHOT WOUND OF THE BLADDER

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It seems extraordinary that a bullet could pass through a man's pelvis and not injure any important structure except the bladder. It is also astonishing that in spite of the fact that the bullet passed through the bladder no blood was found in the urine until forty-eight hours after the injury.

Early Thanksgiving morning of last year a healthy, large man, aged 42, while hunting, was accidently shot in the left buttock with a 22 rifle. Immediately an aching pain began in the rectum, and he had some pain in the right hip and thigh, which was worse on walking.

Though the discomfort in the rectum and the aching pain in the right thigh continued, and he had to have morphine for relief, he had no other symptoms of trouble except fever. The afternoon of the day of the injury his temperature rose to 101.2 F.; the next day it was 99 in the morning and 100.1 in the evening.

A microscopic examination of a catheterized specimen of urine made a few hours after the injury did not show blood, nor was any blood seen in the urine until forty-eight hours after the injury, when the patient passed urine well colored with blood; the evening before he had been given a soapsuds enema, which he could not expel and which was later siphoned off.

Blood was not obtained from the rectum at any time, and a proctoscopic examination by Dr. Troy Bivings (with whom I saw the patient) the day of the injury did not show rectal injury.

I was not called to see the patient until the evening of the third day. Rectal examination at that time showed a soft mass above the prostate which protruded so much that it caused the rectum to fold back over the upper part of the gland. Pressure on the mass caused a distinct discomfort. There was no suprapubic tenderness. The urine was rather bloody, and contained some streptococci and staphylococci (stain).

At cystoscopy the mucosa of the distal part of the prostatic urethra, the vesical orifice and the trigon showed a marked edema. The vesical orifice was so much elevated that it was difficult to get the lens of the cystoscope far enough away from the trigon to view it satisfactorily. Beyond this swelling, which extended to the interureteral ridge above and to the lateral walls of the bladder on each side, the bladder seemed fairly normal. In the outer upper edge of the swelling on either side there was a bleeding point, from which so much blood came that I was never able to get a sufficiently satisfactory view to determine the exact location of the bleeding or the extent of injury to the bladder.

On the morning of the next, the fourth, day I made a suprapubic incision and found the perivesical tissues distinctly, though slightly, edematous, and of a slightly unpleasant odor.

With the bladder opened, the area of edema and hemorrhage could be palpated quite easily. It was limited to a fairly sharply defined area back of the bladder, about 6 cm. in diameter and about 4 cm. thick; it was soft, and slightly crepitant. A Pezzar catheter was fastened in the upper, anterior part of the bladder, and rubber drainage tubes were left on each side of the bladder extending down to the area of injury.

A culture made from the fluid in the tissues about the bladder showed a gram-positive coccus "morphologically consistent with staphylococci."

The patient made an uneventful recovery.

Schematic representation of the course of the bullet. The actual course was probably at a slightly lower level. The bladder was probably full and therefore rounded, so that the bullet passed through only the most dorsal portion. Both seminal vesicles were probably injured, as would have been possible with the bladder full and pushed back between the seminal vesicles. (Photo of a plate in "A Cross-Section Anatomy," by Eycleshimer & Schoemaker, published by D. Appleton & Co.)

About two months after the accident he came in, at my request, for an examination. He had had no symptoms from the injury except an aching pain in the right hip when he walked more than usual, and some blood in the semen on several occasions. Urination was not disturbed.

The urine was clear, and a rectal examination showed a raised fold of tissue running across the pelvis at the level of the upper part of the seminal vesicles which was evidently scar tissue along the tract of the bullet. The prostate seemed normal. The seminal vesicles could not be palpated.

COMMENT

It is difficult to explain why there was no blood in the urine for from twenty-four to forty-eight hours after the injury, but it is interesting and important to observe that the bladder can actually be penetrated by a small caliber bullet without showing even microscopic evidence of blood.

There is no doubt in my mind about the bladder having been penetrated. The bleeding was profuse at cystoscopy, and there was no question that there had been an extravasation of urine into the tissues about the bladder.

The surgeon with whom I saw this patient made me feel that he needed to be convinced that the suprapubic exploration which I advised was necessary. Such a necessity in cases of this kind is difficult to demonstrate, but in my experience it is far safer to make a suprapubic incision and explore the bladder region for extravasation than it is to run the risk of permitting an extravasation to go undrained.

563 Capitol Avenue S.W.

RAPID FILTERING APPARATUS STOPPED AUTOMATICALLY AND AT WILL

MOSES EINHORN, M.D., NEW YORK

In order to emphasize the improvements which I claim for the apparatus I am about to describe, a brief summary of the difficulties encountered in the more common methods of filtration is quite necessary. The old method of procedure involved the use of a funnel, beaker and cotton or filter paper arranged in a fashion similar to that illustrated in figure 1. There were many difficulties and disadvantages connected with this old method. In the first place, the filter paper had to be folded into a shape to fit the funnel. Then, too, the rate of filtration was very slow. Constant attention was required to prevent an overflow of the filtrate into the container. Removal of the filtrate necessitated the removal of the beaker containing it and the substitution of another. Filtration could be stopped only by the removal of the filtering material from the funnel.

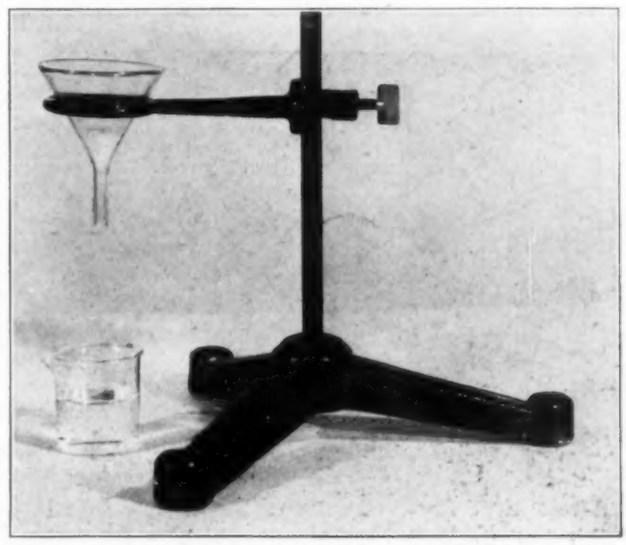


Fig. 1.—Method of filtering ordinarily employed.

Fig. 2.—Rapid filtering apparatus as described by author.

These difficulties were constantly encountered by me while doing gastric analysis, as no doubt they are in the work of all others who find it necessary to do filtration. After much experimentation and development, I have devised an apparatus which I believe will solve many of the difficulties now encountered while doing filtration, and in presenting it to the medical profession I trust that it will simplify the work of others in this respect as it has mine.

The apparatus which I have constructed (fig. 2) consists of a glass receptacle into which a specially prepared filter-paper

cup may be inserted. The bottom of this receptacle is a perforated disk to which is attached a funnel tube which leads into the container and ends some distance from the bottom of it. At the top of the container on the left is a tubelike opening for the escape of air and for the attachment of a suction pump if one is desired. Opposite this opening and in the container (to the right) is a siphon, one end of which terminates just above the bottom of the container, the other

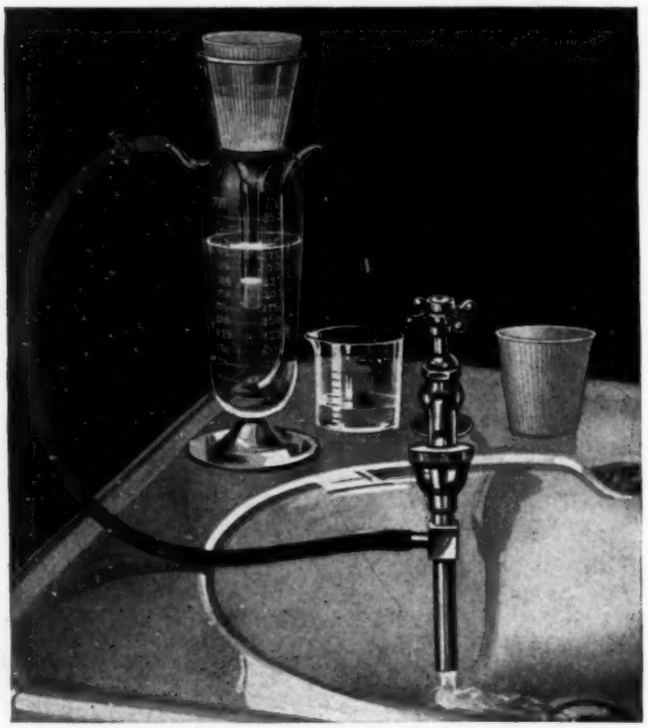


Fig. 3.—Use of suction with author's apparatus.

in a tubelike opening to which may be attached a rubber tube and stopcock to complete the siphon. Standard measurements (graduated in cubic centimeters) are found on the container. Those on the right, with the arrow pointing up, indicate the amount of filtrate in the container. Those on the left, with the arrow pointing down, are used to measure the amount of filtrate that is removed. The apparatus is made of glass, the parts being closely attached and inseparable, so as to make the device absolutely air-tight. The capacity of the upper cup is always less than that of the space formed by the sides of the funnel and the wall of the container. A cup of filter paper is specially prepared for this apparatus and exactly fits the upper receptacle, thereby eliminating all folding and shaping of filter paper to fit the vessel containing the liquid to be filtered.

The use of this new type of filtering apparatus does not radically alter the method employed in the process of filtration. However, in order to obtain the best results, it is necessary to observe the following directions: The filter cup is placed in the receptacle provided for it and the liquid that is to be filtered is poured in. The filtrate then passes through the perforated disk into the funnel tube and through it into the container. When some of the filtrate has already passed into the container, the siphon is filled and the stopcock closed. Filtration proceeds quite rapidly without the use of suction. If more rapid filtration is desired, suction may be introduced in the manner illustrated in figure 3. Through the insertion of a stopcock in the rubber tube attached to the opening at the left, it is possible to control the amount of suction and hence the rate of filtration. The filtrate will rise in the container and after filling the lower part of the funnel tube it will rise in the space between the funnel tube and the wall of the container. When the filtrate begins to reach the level of the higher readings, the suction must be eliminated. The filtration will then continue at a slower rate and will stop automatically when the hydrostatic pressure produced by the filtrate that enters the space plus the atmospheric pressure entering through the opening at the left is equal to the hydrostatic pressure of the filtering material in the cup plus the atmospheric pressure on it. In this fashion, then, the air space in the upper part of the funnel is subjected to equal pressure from opposite forces. The filtration may be stopped at will by shutting the stopcock of the suction tube. The filtrate can be removed by opening the stopcock of the siphon, thus permitting the withdrawal of the filtrate without disturbing the process.

The advantages of this apparatus are obvious and need only a brief description.

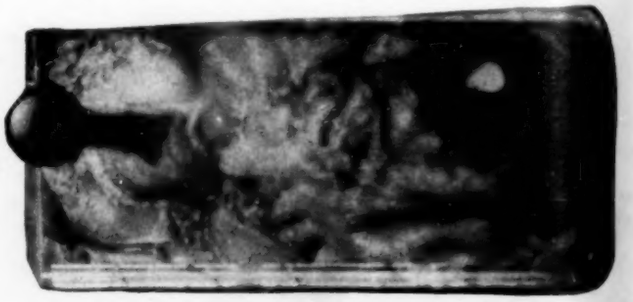
1. The provision of a ready-made and shaped filter cup eliminates the necessity of folding and shaping the filter paper as was previously done.
2. The introduction of suction permits rapid filtration.
3. The filtration is stopped automatically.
4. The presence of the siphon makes it possible to remove the filtrate without disturbing or stopping the process.
5. The graduations on the wall of the container permit one to measure, in easy and convenient fashion, both the amount filtered and the amount withdrawn.
6. The filtration can be stopped at will merely by closing both stopcocks.
7. The arrangement permits of continuous filtration and withdrawal of filtrate without in any way halting or stopping the process of filtration.

286 West Eighty-Sixth Street.

RUPTURED GASTRIC ULCER IN INFANCY: REPORT OF CASE

H. E. BUTKA, M.D., LOS ANGELES

Although the literature abounds in reports of duodenal ulcers, the occurrence of gastric ulcer in infants is exceedingly rare. A careful search has revealed only three cases of ruptured gastric ulcer in infants under 2 months of age. In 7,219 autopsies reported by Sturtevant and Shapiro[1] from Bellevue Hospital, there were five cases of gastric ulcer in children. Adler[2] reports twenty-six fatal cases of gastric ulcer in children, nine of which had perforated. Proctor,[3] reporting from the Mayo Clinic for the years 1906-1924, describes only two cases of typical gastric ulcer in children.



Ruptured ulcer with surrounding area of discoloration.

Thiele[4] states that gastric ulcer in children under 16 years of age is comparaively rare, and reports 119 cases. Cackovic[5] found that 2.3 per cent of gastric ulcer in his clinic was in children under 10 years of age. Carteaux[6] reports the first recorded fatal case of ulcer of the stomach in a new-born

1. Sturtevant, Mills; and Shapiro, L. L.: Gastric and Duodenal Ulcer, Arch. Int. Med. **38**: 41 (July) 1926.
2. Adler, Harry: Gastric Ulcer in Childhood, Am. J. M. Sc., January, 1907, p. 135.
3. Proctor, O. S.: Chronic Peptic Ulcers in Children, Surg. Gynec. Obst. **41**: 63 (July) 1925.
4. Thiele, P.: Gastric and Duodenal Ulcers in Children, Deutsche Ztschr. f. Chir., July, 1919.
5. Cackovic: Gastric Ulcer in Children and Its Consequences, Arch. f. klin. Chir., July, 1912.
6. Carteaux: Observation of Gastric Ulcer in Fetus at Full Term, Compt. rend. Soc. de biol. **4**, 1858.

infant, in 1858. Holt[7] states that gastric ulcer is of great rarity and reports two cases of rupture in infants—one by Rotch at 6 weeks and the other by Cade at 2 months of age.

The symptomatology is variable. Apparently the only characteristic symptom is hemorrhage, occurring as hematemesis or melena with tarry stools. Vomiting is not constant. With perforation there is collapse, high temperature, tympanites and rapid death. Peritonitis develops but is masked by the other conditions. Death usually occurs within thirty-six hours.

The present report is of an infant born in the White Memorial Hospital under the service of Dr. J. P. Mortenson.

REPORT OF CASE

A baby girl, weighing 8 pounds 8½ ounces (3.8 Kg.), was born to Mrs. M. H., a primipara, Nov. 2, 1926, at 11:55 p. m. Labor was induced by castor oil, quinine and enemas, and lasted seven hours. Head molding was slight. Asphyxia was severe, and artificial respiration and oxygen were given. Much mucus was aspirated with a catheter from the pharynx. The baby later became quite blue at times, especially following the administration of fluid. There was much difficulty in swallowing fluids and in nursing. The temperature increased on the third day to 102.6 F. Then she appeared to be somewhat better and rested quietly. Some dehydration was observed, and she raised some thick, tenacious mucus. On the fourth day the mucus was blood tinged and bright blood was vomited. The stools became tarry. All fluids taken by mouth were returned. On the fifth day the child became weaker and cyanotic. In the evening, abdominal distention appeared and became progressively worse during the next twelve hours. Marked tympany was present. Death occurred at 9:15 p.m. of the sixth day.

Autopsy, performed thirty minutes after the death of the infant, revealed that a portion of the cord was still attached but dried up, and the site was well healed. A few small hemorrhagic spots were seen on the nose. A small needle puncture wound was found on the abdomen about 2 cm. below the umbilicus. The abdomen was markedly distended to capacity. Some lividity was present on the back below the shoulders.

When the peritoneum was opened, a large amount of air escaped, with the entire disappearance of distention, leaving the abdominal organs small and collapsed. There was about 500 cc. of air free in the abdominal cavity. The cavity contained some dark clotted blood and fibrin, with some fibrinous material resembling a low grade exudate present over many of the coils of the intestines and especially prominent in both flanks. Much blood clot was found in the stomach, and duodenum, and liquid dark colored fluid blood was present in the jejunum and ileum. The fecal material in the colon was of a lighter color.

Further examination of the stomach revealed externally an area of discoloration and fibrinous exudate over a zone about 2 cm. in diameter, on the greater curvature, about 1.5 cm. below the cardia, and coming into contact with the spleen. Internally, there was found a round crater-like ulcer measuring 8 mm. in diameter and evidently opening into the peritoneal cavity, although the fibrinous exudate had covered most of the opening. Other areas of necrosis of the mucosa were present, but the process had not extended elsewhere to actual ulceration.

The other abdominal organs did not show definite pathologic changes.

Examination of the thorax revealed both lungs partly aerated and partly atelectatic, this being most marked on the left side, involving a portion of the upper and a larger portion of the lower lobe. Patches were also present in the right lung.

The heart was fairly large, and quite normal in appearance. The foramen ovale was patent but fairly well covered by the valvelike membrane.

The anatomic conditions were: perforated gastric ulcer; acute peritonitis; gastric hemorrhage; pneumoperitoneum, and atelectasis.

The probable cause of death was perforated gastric ulcer with hemorrhage and peritonitis.

COMMENT

The interesting features of this case are the age of onset; the occurrence of hemorrhage in the vomitus and stools, and the rapid development of acute distention twenty-four hours before death, presumably corresponding to the time of rupture of the ulcer. This distention was entirely due to free gas in the peritoneal cavity, the intestines and stomach being completely collapsed. The ulcer occurred on the greater curvature in a position readily accessible. Prognosis in peptic ulcer is always grave because of the small amount of blood an infant can lose and still survive. An early diagnosis in gastric and duodenal ulcers in infants is essential.

North Boyle and Michigan avenues.

7. Holt, L. E.: Diseases of Childhood and Infancy, New York, D. Appleton & Co., 1916, p. 342.

A UNIVERSAL INDICATOR FOR HYDROGEN ION CONCENTRATION *

EMIL BOGEN, M.D., CINCINNATI

A single solution that will give a continuous change of color with changes in hydrogen ion concentration over nearly the entire range, from strongly acid to strongly alkaline solutions, may serve a multitude of purposes in the clinical and scientific laboratory. Such a mixture, suggested by Moirs of South Africa in 1917, is marketed by the British Drug House. Great accuracy must not be expected from such an indicator, although differences of p_H as low as 0.2 may be distinguished; but for rough approximations or as preliminaries to more exact determinations, it may be found of great value.

The following mixture has also been developed for this purpose, as it has a range from p_H 1.0 to p_H 10.0, with a continuous change of color with change in hydrogen ion concentration: phenolphthalein, 100 mg.; methyl red, 200 mg.; dimethylaminoazobenzene, 300 mg.; bromthymol blue, 400 mg.; thymol blue, 500 mg. Dissolve in 500 cc. of absolute alcohol. Add tenth normal sodium hydroxide solution until the red disappears and the solution becomes yellow (p_H 6.0).

For determining the hydrogen ion concentration of any solution, add one drop of this indicator to 1 cc. of the specimen. The colors produced resemble those of the spectrum, thus:

Red	indicates about p_H 2.0	(very strongly acid).
Orange	indicates about p_H 4.0	(strongly acid).
Yellow	indicates about p_H 6.0	(weakly acid).
Green	indicates about p_H 8.0	(weakly alkaline).
Blue	indicates about p_H 10.0	(strongly alkaline).

For closer approximation, a series of standard solutions for comparison can be made with known buffer mixtures as described by Clark and Lubs.

Indicator papers, made from the indicator solution by soaking heavy filter paper with the alcoholic solution and drying, is very useful, as it may be substituted for litmus paper or similar indicator papers in general use with a consequent amplification of information so obtained. A standard chart may be made in permanent colors to match.

FRACTURE OF OS TRIGONUM: REPORT OF TWO CASES

ROLAND MEISENBACH, M.D., BUFFALO

In reporting these two cases, it may be well to understand that an os trigonum occurs more frequently than is recognized and that its fracture is not unusual. Cases that have shown the presence of an os trigonum are usually those in which foot symptoms other than static errors are pronounced.

I have seen an os trigonum mistaken for an exostosis, spur, hypertrophic exuberance or other condition and, in many cases, entirely overlooked. In a careful diagnosis of foot conditions, an os trigonum, when present, may play a more important rôle than is generally supposed. The two cases reported here clearly illustrate the points in question. These two cases have occurred in a relatively short interval among a large number of foot cases presenting definite symptoms. In these cases, the os trigonum frequently appeared in various forms, but it was fractured only in the ones reported.

REPORT OF CASES

CASE 1.—A man, aged 25, weighing about 160 pounds (72 Kg.), healthy, while playing squash at the university club,

* From the Department of Biochemistry, University of Cincinnati College of Medicine.

caught his ankle at the side of the court and fell. Examination showed a painful ankle, no swelling of the forefoot, but a definite circumscribed ecchymosis about the size of a penny on the internal and external aspect, just forward of the Achilles tendon at its insertion. Motion at the ankle was not limited and the peroneus muscles were not in a state of spasm. A lateral roentgenogram showed a large os trigonum fractured but not displaced. Convalescence was uneventful; the patient was able to use the foot in two weeks.

CASE 2.—A fleshy woman, aged 48, weighing 222 pounds (100 Kg.) with lipomatous nodules in her arms and limbs, stumbled with her foot in dorsiextension and fell. Examination showed a painful ankle with pains referred to the toes, and swelling of the entire foot and ankle. An anteroposterior roentgenogram showed an irregular crack extending entirely through the upper part of the astragalus, but no displacement. The lateral roentgenogram showed a large os trigonum which had been fractured at its base and pushed backward. The ankle surface did not show ecchymosis. Under nitrous oxide and oxygen, the foot was gently manipulated and placed in a firm dressing, and later on a flanged plate. The result was good.

140 Allen Street.

Special Article.

THE PSYCHOLOGIST LOOKS AT THE DOCTOR *

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MADISON, WIS.

I am aware to the point of embarrassment that a psychologist may look at a doctor only from that lowly position of privilege and reverence from which a cat may look at a king; nor have I any designs, feline or otherwise, to psychoanalyze the doctor and disclose any unpresentable repressions or complexes detrimental to the prestige that is the most valuable instrument in his formidable black-bag. As a prescription that I shall presently consider concerns the dissipation of fear, I offer this dose of assurance, in place of any more acceptable consolation suppressed by the freudian censor under the name of Volstead. Nor have I any thesis of startling novelty which might lead you to suspect it as a radical innovation. What I have to say is in the air, or, as we now say, *on* the air, and might be broadcast from any medical station in tune with the modern wave-length.

It takes its start with the truism that a doctor treats patients as well as diseases—a patient with a disorder, the two intricately and at times hopelessly entangled. The physician must forget what the medical student must remember in his dissecting-room period, that the human subject, like Gaul, is divided into parts to be distinguished minutely without confusion. Any such sectional attitude in his vivisectional practice with sensitive human subjects will be as unfortunate as any other false diagnosis.

The doctor is in charge of the health attitude of the personality, which is bound up intimately with the deepest, most vital interests of living. He should not be summoned, like the lawyer, only when his clients are in trouble, though he is there for emergency purposes as well. There is much to be said for the practice of stopping the doctor's pay when the patient gets sick, except that a liking for such immunity from charges might encourage malingering or invalidism. Avoiding the doctor's bills is a stimulus to health that should be recognized in the principles of mental hygiene. The pocketbook nerve, one of the most sensitive in the human organism, is apparently a branch of the solar plexus. The prescription for the doctor, that he should not be so amiable as to encourage recklessly visits from his patients, is easily observed by many doctors that I have met, without violence to their nature. Yet he should not be so objective as to keep his patients at a distance either spacially or socially. Medical diplomacy is a worthy art. Fortunate the doctor who can make friends of his patients, fortunate the patients; though friendliness is not a complete substitute for solid information.

In this day of simple panaceas, we are informed that an apple a day will keep the doctor away—a welcome discovery to apple growers, but apparently not accepted by the army of advertisers of a thousand philanthropic concoctions in bottles, tubes, jars, capsules, pills, tablets, and similar containers offering relief and contributing to the most popular indoor sport of the day—keeping the doctor away, or keeping away from the doctor. Yet it isn't quite true—it isn't at all true—that he who is his own doctor has a fool for a patient. For one of the rewards of making a friend of the doctor is to increase one's expertness in being one's own doctor, in getting something of the doctor's own view of health. Health is a cooperative enterprise, no less than education. Speaking from long experience in the classroom, I am aware of the successful resistance which many students can maintain toward the educative process; a like adroitness or attitude toward the doctor would defeat the most benevolent as well as the wisest member of the healing profession.

AIMS OF PROFESSIONAL MEN

I interject by way of a slight detour that a profession is distinguished from a business in that it is devoted to its own destruction. Its major purpose is organized suicide. The medical profession is perhaps the most professional of all. The goal of the doctor is to have all people so well that no one will have any need of him. The professor is a close second. He would like to have every one so well informed and so naturally wise that there will be no need of teaching, and he may then devote himself with the same luxurious salary to some more profitable enterprise. The minister would like to see all humanity so naturally seeking the road to salvation and so universally virtuous that his would be the most unnecessary of callings. As to the lawyer, I have my doubts: whatever concerted efforts lawyers are making to diminish human contentiousness and thus have their occupation gone is successfully concealed, and in their zoological tolerance they accept fees with equal resignation from lions and lambs, after which they have no objections to their lying down together in peace, awaiting the millenium. Let us professional men cheerfully accept the high privilege of spending our efforts in the cause of diminishing the need for our services. Yet in any future as yet foreshadowed, the psychologist may continue his observation of doctors, for there will be urgent and abundant work for both.

* Read before the American Laryngological, Rhinological and Otological Society, Atlantic City, N. J., May 26, 1927.

As one turn, whether good or not, leads to another, I add a further detour by way of a retrospective glance. That the soldier, next to the hunter, is the oldest of occupations in the total business of living, and both destroy life, is hardly a source of philosophic satisfaction. The defense against the human animal seems to be the fundamental prerequisite to life, liberty and the pursuit of happiness, endangered by the presence of other pursuers of the same goods. Next came the medicine-man, in those unspecialized days combining the functions of doctor and priest and scholar, versed in all the tribal lore of the wonder-working class, who alone could stand up against fate to avert disaster or invite if not command success. Just who has inherited his bag of tricks and assumption of superior wisdom, whether doctor, professor or minister, it would be injudicious to suggest. But their remote composite prototype had the advantage of treating the whole man, with such body, mind and soul as he possessed; and mental medicine is as old as drug-craft and bone-setting. The doctor has been for so many generations under the strain of appearing wiser than he is that we have forgotten that the word "quack" has no inherent medical restrictions. One of the incidental advantages of specialism is the relief that it affords to the general practitioner by making it respectable to admit his own limitations. The cultural route from the medicine-man to the medical specialist is a long one, full of interesting episodes, and is so largely a double story, the one of the recognition of ailments and skill in their control, and the other the reaction of the patient to the ceremonies of the healing cult, that it belongs equally to medicine and to psychology. It justifies the use of the term psychologic medicine in more senses than one, and mitigates the irrelevance of my presence in this gathering of specialists.

RELATION OF PHYSICIAN AND PATIENT

Though what I am converging on is the psychology of the doctor-patient attitude, that has its basis in the central and far-reaching fact which affects the art of the practitioner, the intricate and often baffling interplay of the bodily and the psychic mechanisms. One of the most useful words in the scientific and practical vocabulary is the word clinical. Though derived from the accidental fact that most persons when sufficiently out of gear are sick-a-bed, the bed has as little relation to the clinical attitude as has the church, which is a structure of stone, to the invisible Church, whose ministration is the reason for the edifice. The clinical attitude toward human nature is shared by the psychologist and the physician and makes them so far kin. Somewhere I met in medieval Latin the saying that where there are three doctors there are two atheists. Their skeptical Missourian reputation seems to be an old one. If not now, then eventually, it will be true that where there are three doctors there will be two psychologists. I believe that psychology has so much to contribute to the clinical insight that its inclusion in the medical curriculum is inevitable.

Both historically and by the nature of his service, dealing with a sufficiently complicated anatomy and a superimposed and supercomplicated psychology of the patient in whom that anatomy is incorporated, the doctor is by necessity both a technician and a clinician; and it is the clinical aspect that imposes the larger human and humane obligation. The dentist (and he is the last man I would dare to "knock," for he is so ingeniously equipped to get back at you) is almost wholly technician; and one rarely makes a friend of one's dentist, not only because he has all the advantage in any attempt at genial conversation, but by reason of the general intimate indignity of his attentions. Scientifically he serves as a useful personal demonstration of the anatomic cost of evolution, and should have been summoned as a formidable witness at the belated hersey trial staged in the wilderness of Tennessee. Many escape the doctor, few the dentist. He serves also to reconcile the layman to the necessity of specialists in other parts of our physiology than are exercised in any demonstration of hospitality when we eat and talk with so much of our original equipment as the dentist has spared. The era of specialism should not throw out of focus the center of the medical art, which is the function of the general practitioner, who deals more nearly with the total patient, and sees him more soundly because he sees him whole.

The practitioner meets the normal man in a somewhat abnormal situation; he must be conversant with the ills that mind as well as flesh is heir to. He must be sympathetic with the total human heritage. The two points in the psychology of that relation that dominate, yet by their very familiarity seem to have escaped pointed attention, are, first, the component of fear, and, second, the confidential unreserve. The typical attitude of the patient is one of anxiety, apprehension. The anatomic distribution of that effect is an interesting one. Some medical man has made the generalization that in diseases above the diaphragm the patient is hopeful, and in diseases below that membranous partition of optimism and pessimism he is despondent. Perhaps the most convincing bit of evidence is furnished by the malady that has the lowest mortality rate, sea-sickness, in which the sufferers are burdened with two fears according to the measure of emotional rationality which they retain: either the fear that they may die, or the fear that they won't. The fear complex occupies the central place in the psychology of the doctor-patient relation. This fact should be frankly faced; and following the clinical clue, it leads directly to the condition called neurasthenia.

THE NEURASTHENIC COMPLEX

The study of the functional nervous disorders contributes an important chapter to psychology. They stand as the end-terms of types of deviation from the normal. They are of importance for an understanding of the human composite. Parents, teachers, employers, social workers, ministers, doctors, those who in any capacity have to direct the whole man (and here it is particularly important to add the whole woman or boy or girl) must be conversant with the pictures of the liabilities of "nerves." We call them nervous disorders. They are, in fact, slightly abnormal tendencies, which, when seen through the magnifying glass of disease, show their distortions, but looked at through the other end of the opera-glass, these neuroses appear in miniature in the normal. They then represent a disposition, a tendency—what for the lack of a more convenient

name we call a symptom-complex. The picture of neurasthenia in the normal person is a trait-complex; it applies to a certain type of personality. When the neurasthenic temperament is exaggerated and breaks bounds by the ravages of disease, we have clinical neurasthenia. The same principle applies to the hysterical temperament, or to the paranoid temperament, and to others not so readily differentiated. There is enough of all this in most of us, fortunately not in all of us, that illness brings out the liability. Most patients, in addition to their troubles of a more technical type, are clinically somwhat neurasthenic. In acute neurasthenia these symptoms more completely dominate and enlarge if they do not actually create the physical aches and pains and incapacities, terrorizing the patient whose misery is so profound that only a serious impairment can be held responsible. To expand this thesis would develop it into a lecture and arouse your latent neurasthenia, for its dominant symptom is fatigue. Were it not that animals share this physiologic accomplishment, I should be tempted to regard as the most characteristic human response that of yawning. It remains so in that only a human being yawns when bored as well as tired.

When the psychologist looks at a neurosis, he is on the search for a group of central factors around which the total picture may be built. For neurasthenia the first of these is fatigue—that well known tired feeling, the reputation for which the business man cultivates as an excuse for indulgence or grouch, and the really busy man, like the doctor or the psychologist, knows too intimately to need to have it described. Fatigue is the deadliest foe to happiness, the damper of success, the discourager of enterprise, the closest ally of disease in that it lowers resistance; its dominance makes rest the most universal prescription of nature, thus once more bringing the bedside as the condition of restoration. The lowering of energy conditions the lassitude that marks the departure from normal well being. We are as well as we are energetic.

The second feature is fear. The extent to which fear may incapacitate the strongest man, once his nerves are shattered, defies belief. Shell shock is fear shock. Among the war records there is one of an officer with distinguished service medals who, on his return to Washington, locked himself in his office and wept like a child in order to gather courage enough to get his discharge and live for two years alone on an island in the Pacific in an attempt to regain his nervous stability. When a man has been decorated for courage under the most trying circumstances, one ceases to think of fear as a cowardly symptom; it is definitely a neurotic one. It extends to apprehension, to worry, to care, to an incapacity to face even ordinary situations. Now there is something of this in miniature in every disease, and naturally it centers about the fear of suffering, of incapacity, of an uncertain future. The technic of assurance is accordingly the first instrument to put in the first-aid kit of the doctor. To induce by the art of authority, of reason, of persuasion, of suggestion, as normal an attitude to the acceptance of the disorder—this is what one might call clinical morale. And as the behavior of the soldier individually and collectively depends on the morale of the organization, the psychologist urges on the doctor the study of clinical morale. Its central principle must be directed to the diplomatic handling of fear. Fear is a poor name for so rich a psychologic product, and we are too apt to associate it with its more limited physical aspect. To assure by authority, to encourage by manner, to restore the broken morale which is so frequently an accompaniment of lowered health that it is one with the total ailment, that is part and at times the best part of a cure. The details belong to the practitioner of the healing art.

The third feature in the neurasthenic complex is depression. The physicians who first diagnosed the neurasthenic state labeled it by what most impressed them. Like much else of destructive value in life, it is an American invention. Dr. Beard spotted this modern devil and gave it its name, which was soon popularized as nervous prostration. He was impressed with the paralysis of energy, the overwhelming difficulty in action; while the French neurologists were more impressed with the depressive aspect, and the popular French name for it is a depression of the nerves. It is easy to understand how inevitably fear and worry, combined with difficulty in effort, lead to a complete pessimism, a true melancholia that has only the relief of moving up and down the misery scale, and in a measure yields to the solace of sleep and drug action. Thus clinical morale sends the doctor to another chapter in psychology, the study of emotional fluctuation, which finds its completest picture in the varieties of depression. The technic of meeting depression is not the same as that of meeting fear, and the resources at command are limited. To steer between stimulation that cheers but does not fatigue, which may induce a relapse, is a delicate art. The social factor so dominates the emotional life that the question is more often not what is best for the patient but who is best. Some patients like nurses; some regard them as the worst feature of the disease.

The fourth focus of neurasthenia is the loss of an allied affect, the zest, the joy of living. It is in truth merely another phase of depression, but so distintive that it is often the symptom that brings the patient to the doctor. Dr. Meyerson is so impressed with this factor that he prefers to speak not of neurasthenia, but of anhedonia, the loss of the pleasure-sense. It is one of the most dismal consequences of exhaustion and reaches from the loss of appetite to the lack of pleasure in nature, in recreation, in reading, in friends, even the interest in one's pet enemies; one becomes dull to the field of either excitement or amusement. The neurasthenic ceases to care. The anhedonic is blasé not from having tasted all life with such excess that it has grown stale, but because his energies are so lowered that nothing is worth doing. To restore energy restores control, dissipates fear, lightens depression, imparts zest. It is all part of one's morale, and it enters into the picture of disease so intimately that it stands as the guide to clinical diplomacy. It makes quite definite the state of mind that the clinician has to meet. He faces, according to the disposition of the patient, a slight or a marked neurasthenic impairment as the typical concomitant of disease. He should be prepared in the technic of its detection, its quality, and in the difficulties of its treatment. Least of all should he disregard it as of slight consequence because of the necessary major attention to the part of the disorder that he discusses with the consultant physicians.

THE GAME OF HEALTH

I pass to the second of the two reflections which come to the psychologist as he ventures to speak to as well as to look at the doctor. It is the relation of confidence and unreserve. It is the matter of throwing off the mask, or, to recognize the present fashion, the make-up which society requires all of us to wear and of establishing that more intimate footing which is indispensable in the companionable journey along the road to health. It is here that a minor aspect of the freudian psychology has a definite clinical bearing. Freud calls attention to the veil which the artificial relations of society throw over the realities of human nature. In the presence of others, every one is a censored as well as an inhibited version of himself. Those who believed that the psychoanalytic technic had a large clinical importance were influenced by the hope that this would be a method of breaking down such resistances and getting at the submerged, concealed, suppressed difficulties which at times were responsible for maladjustment and disorder. I cannot take time to indicate in any precision what portions of the freudian doctrine seem to me of permanent value. I can only say that I regard it as fortunate that only a small proportion of patients, and a still smaller proportion of normal persons, are sufficiently complex in their make-up to require or benefit by any technical psychoanalysis. Fortunately civilization has not as yet brought us to such a pass that we are all so sophisticated and involved that a doctor who is a bit of a psychologist can't see through most of his patients. He needs no more penetrating roentgen ray than common sense refined to a clinical gift. The majority is still of the ordinary garden variety of human folk, fortunately exempt from psychoanalysis because there isn't enough in them to psychoanalyze. Commonplaceness, not to say dulness, has its advantages. One of the temptations of the doctor's office to a certain type of patient is the hope that he, or should I risk all hope of popularity by saying she, may prove to be an interesting case. It is a common observation that persons with no conspicuous intellectual resources take a peculiar pleasure in discussing their ailments after the topic of the weather has been exhausted. But it is not this phase of the danger of substituting disease-consciousness for health-consciousness that I have most in mind. We are all familiar with the classic story of the medical student who, after listening to the various symptoms associated with the entire range of diseases, found that he had them all, and was only puzzled by the one exception—his failure to show any symptoms of "housemaid's knee."

Before dismissing this reference, I must use it to indicate that the peculiar domain of the freudian psychology likewise illustrates the relation of a functional nervous disorder to a temperament, for its clientele is centrally that of hysterics. From the present approach they may serve as the other pole of nervous deviation. For despite their overlapping symptoms, the technic of normalizing an hysterical patient is quite the reverse of the normalization which is the cure of a neurasthenic. The masquerades of hysteria are a challenge to the clinician and force him to be an alert technician relying on objective tests, force him to treat patients as well as diseases. The psychoanalyst has directly aimed at establishing a relation of unreserve, of breaking down resistances, though it is an open question to what cases his technic properly applies. Whatever his technic, the clinician faces the task of establishing a combination of assurance, confidence and confession. It is something more than a confidential relation, which for that matter is shared by one's lawyer and one's bootlegger. Its peculiar quality in the doctor-patient relation is that it includes the frankness of discussion which breaks down reserve. The patient must somehow be induced to bare his psychic nakedness as he bares his body to the doctor's examination, and with equal absence of anxiety that he will lose social caste by the exposure. It is a confessional relation, and completes the circle in that it is confiding as well as confidence that removes fear. The friendliness of informality is one of the most potent salves. The doctor can well afford to lose his dignity to win his patient. To discover that even a doctor is human is a tonic. It is asking too much to require a patient to recover from an illness and from the doctor's visits also. The office atmosphere leaves something to be desired in the way of inducing a sympathetic approach; nor should the reading matter displayed in the dreary waiting room for the benefit of the impatient patients suggest that it has been selected for a peculiarly intelligent group of morons. Patients are not as critical as psychologists, but it won't do to forget that while the doctor looks at the patient the patient also indulges in the privilege of looking at the doctor. It is not altogether a one-sided clinic, and perhaps it is fortunate that patients do not keep a case-book. Health is a game that two must play.

RATIONALISM IN DOCTOR-PATIENT ATTITUDE

I have suggested that in the clinical relation there must be something of love as an offset of fear and something of faith as an assurance of confidence. But we have come on days when neither love nor faith is blind. Both have been rationalized, and it is the rationalism in the doctor-patient reciprocity that sets my concluding note. It is a far cry back to the medicine-man in the rôle of wonder-worker, imposing on as well as administering to the credulous. So complete is the change that a feature of our times is the syndicated doctor. Perhaps he has the largest practice of any of you, unless it be the unrecognized practitioners, who by appropriating first our common title, science, then your special one, health, introduced a new variety of keeping away from the doctor by the original device of absent treatment. The daily health column, despite its limitations, is a favorable omen of interest. It proceeds on the correct assurance that the health attitude of the people is a public concern. How far it contributes another variety of the game of keeping away from the doctor is open to question. Bringing health doctrines to the masses, if responsibly done, is an aid to rationalizing the doctor-patient relation. It is in another column of the newspaper, which, far from paying the doctor for his contributions, receives pay from the so-called doctor, that danger lies. The advertising doctor is so far from meeting the professional standard of reducing the need for his occupation that he employs the technic of fear to frighten his victims into illness in order to collect a fee for their ransom. I infer that these adepts are especially good life-insurance risks, as none of them are in the doctor business for their health. The exploitation of the fear of illness and the fear accompanying illness is a sorry business, proving how far we still have to travel on the road to rationalism, which is also the path to humanitarianism. The psychology of the fake doctor

who is also the scarce doctor is as sound as its morality is rotten.

But the advertising menace tells only part of the story. The situation is far more complicated and more serious. It is because there is a parasitic body that copies the rational technic of its host that it becomes formidable. The pseudoscience surrounding medicine operates not in the slums but often among the imperfectly educated and announces discoveries startling in claims and with testimonials galore. This body of self-made specialists not merely profess to cure and offer testimonials with alphabetical decorations to their names and short-order diplomas, but they have all discovered a *system*. That's the magical word, the rationalist slogan of the modern medicine-man. Dr. Fishbein has branded them as no layman would dare, Medical Follies; and so abundant is the crop that he has issues a supplement of New Medical Follies. All this is the penalty of the malpractice of rationalization—not the little learning, but the false pretense of learning that is a dangerous thing.

The varieties of medical follies are a testimony to human ingenuity in devising irrational appeals to reason. Their grotesque manipulations and parodies of laboratory procedure are as elaborate as they are confusing. It is asking too much of the lay mind to resist their claims when doctors must use their critical powers to distinguish between truth and presumptuous error. Perhaps they reached their climax in the lucrative genius of the late Dr. Abrams, who set forth that, by physiologic reaction registered on royalty-bearing apparatus, he could establish a differential diagnosis between a Presbyterian and a Baptist. Some of the leaders and perhaps more of the followers of medical side-shows may be sincere but deluded, but the sincerity is dilute and the delusion pays. Where ignorance is so easily capitalized it may be folly to be wise and poor. I am using the illustration to make clear the difficulties in rationalizing the doctor-patient relation. The patient is the public, and education in the health attitude is taking its place in our general program.

I must limit my reference to one phase of this menace, the menace of cults. Cults spread, like infections, from a series of centers, and the psychology of mental contagion, when there is poor intellectual resistance, gives great power to one enterprising crook or one energetic paranoiac to become the founder of a system of healing, from walking barefoot in the wet grass (which in these dry days may be an innocent compensation) to having the kinks taken out of or put into your spine, when the real trouble is above the ears.

But a still more pertinent reason for citing the medical follies is to indicate a further kinship of the doctor and the psychologist, in that their only rivals are the Psychologic Follies. Enlarge your Personality! Develop Your Hidden Powers! Overcome Hesitation! Be a He-Man! Aid your Memory! with Health thrown in free in each and every package of Success, and all in the name of Applied Psychology. Priests and Priestesses of the Personality and the Efficiency Cult gather huge audiences in all large cities, register pupils, confer certificates, gather shekels, and move on to pastures new.

Psychology and Medicine share this unsavory field of philanthropy that thrives with peculiar vigor on American soil. How to deal with health crooks and health cranks is no different a problem than how to deal with mind-crooks and mind-cranks. Prohibition has never been an ally of rationalism and, as often proposed, is but a skepticism of education which is the only salvation: to educate the average man out of the reach of fads and cults as well as crooks. That a sucker is born every minute is an arrangement of nature against which it is idle to protest. The sad thing is that a crook is born every hour to take advantage of his fifty-nine contemporaries; and as yet even doctors have not developed a selective birth control that will correct this proportion. Kittens have their eyes open after the first two weeks of life; the human prolongation of infancy into late maturity delays this ophthalmologic operation until far too late.

Toward the problem of rationalizing the health attitude of the patient, which is so much the same for doctor and psychologist that the two are threatened by the same menace, I have time to offer but one suggestion; and it is an ancient one. *Mens sana in corpore sano*. The Romans used the same word for bodily and for mental health; mental hygiene isn't as new as we think it. We still follow the same usage: Sanity and sanitation are derived from the same root; and I think it was Mark Twain who suggested that a doctor was just a more complicated variety of janitor or plumber. There is a wholesome, well adjusted attitude toward one's life work that is the combined issues of sanity of mind and sanity of body, as similarly we associate personal and moral cleanliness in a common hygienic principle. The dissipation of fear, the establishment of confidence, the cooperation of a rational view of the mechanisms of health, suggest an outline of clinical morale.

New and Nonofficial Remedies

BISMARSEN

Preliminary Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following statement. W. A. Puckner, Secretary.

Bismarsen is the name given by the Abbott Laboratories to a new derivative of arsphenamine containing bismuth and proposed for use intramuscularly in the treatment of syphilis. Bismarsen is the sodium salt of a bismuth derivative of arsphenamine methylene sulphonic acid (sulpharsphenamine), the exact structural formula of which has not been established.

A study of the therapeutic usefulness of Bismarsen has been made by Drs. Stokes and Chambers, who read a paper on this subject before the Section on Dermatology and Syphilology at the 1927 session of the American Medical Association. A summary of this report (based on study of 110 patients treated with the drug) was submitted to the Council by the authors. Their conclusions are, in substance, as follows: The drug is an effective spirillicide, meeting requirements for the protection of public health in this matter. A few patients (perhaps 6 per cent of those treated) cannot take it because of local reaction. Its immediate effect on the blood Wassermann reaction in early cases (i. e., influence on the infection as a whole) is comparable to that of standard combined treatments now in vogue, with the added advantage of greater simplicity and lower toxicity. The drug is well borne by children in adult doses (three cases, from 5 to 6 years; two cases, from 12 to 14 years). In all types of cases it seems to have marked tonic effects. The route of administration and relative freedom from Herxheimer effects make it an acceptable drug in cardiovascular syphilis. Its doubtful points thus far include its effect on the serologic picture in established neurosyphilis, for which the authors state that their material is insufficient for conclusion as yet,

and its ability to reverse resistant positive blood Wassermann reactions and to hold negatives unaided.

The manufacturer has submitted two letters as evidence for the value of the product, one from Dr. John A. Kolmer of Philadelphia, the other from Dr. C. H. De T. Shivers of Atlantic City: Dr. Kolmer reported in an informal and preliminary way that he was favorably impressed with the drug from its use in the treatment of fourteen chronic cases, including three of congenital syphilis and four of acquired "Wassermann-fast" syphilis; Dr. Shivers reported in much the same manner his generally favorable impression from the use of a drug designated "X. Y. S." (presumably Bismarsen) in 140 cases including primary, secondary and tertiary syphilis. No formal case reports accompanied either of these letters.

A supply of the drug was sent to one of the Council's consultants, who makes the following report:

"It has been our object to study the effect of the drug on the spirochetes of local lesions, for, after all, this gives probably as good a criterion of the value of an antisyphilitic remedy as anything that we have.

"We have studied thirteen cases which have been in the hospital under closest observation, where we have been able to make dark-field examinations on the patients every day. The material has consisted of three patients with primary lesions, and the rest of them with mixed primary and secondary or secondary lesions of syphilis.

"Our technic has been to start with an injection of 0.1 Gm. and if the patient stood it all right, to give 0.2 Gm. and to use the remedy about every three days. With some of the later cases we used it even every two days and with some of them we raised the dose to 0.3 Gm. at an injection. The number of doses given in these thirteen cases varied, with extremes of three and twelve injections, and a median of seven injections; and the total amount of drug given has varied, with extremes of 0.5 Gm. and 2.2 Gm., with a median of 1.2 Gm.

"We have not noticed any symptoms of toxicity in connection with this preparation systemically, nor have we noted any evidence of skin eruption or evidence of a Herxheimer reaction following the injections, even in cases of secondary syphilis with marked generalized eruptions.

"As far as pains from the local injections are concerned, this was noted in quite a few instances, and in three of the patients this pain was very severe. We have a notation that one of the patients complained bitterly, and in two of the patients it was necessary to stop the injections, in one of them after three injections and in another after four injections; while still another patient complained that the pain was very severe for thirty-six hours after the injection. This was used in doses of 0.2 Gm., and not higher. Still another patient, whom we do not have down in this list of those that complained so bitterly, reported that with the first five injections there were severe pains, but with the last four the pain was not noted so much.

"*Results.*—In one patient with a generalized papulosquamous syphiloderm, with three injections, a total of 0.5 Gm., there was quite a good clinical result and the eruption seemed to clear up quite rapidly, including the condyloma, though the spirochetes did not disappear from them for seven days.

"In still another patient with a sparse papular eruption that was just beginning, the eruption seemed to have disappeared after about a week of treatment.

"*Disappearance of Spirochetes.*—In ten of the patients it was possible to follow the clinical results by examination for spirochetes in the local lesion, and these patients were followed daily and very careful examinations made. The spirochetes disappeared in extremes of three days and twelve days, with a mean of between five and six days.

CONCLUSIONS

"We believe that this preparation has a certain amount of merit, and there may be certain situations in which it would be of value to have some such remedy as this to fall back on."

The foregoing reports are obviously insufficient to form the basis of acceptance of the drug for New and Nonofficial Remedies. Further trial and confirmation are needed before more than tentative acceptance can be accorded. However, the generally favorable character of the reports together with the fact that Bismarsen is a chemical substance of controlled composition is sufficient to warrant its further trial by physicians, with due recognition of the fact that the drug is still in the experimental stage. The Council has, therefore, deferred acceptance of Bismarsen and authorized publication of this preliminary report.

For the information of those who desire to use this compound, the following description is published:

BISMARSEN. — Sulpharsphenamine Bismuth. — Bismuth Arsphenamine Sulphonate.—The sodium salt of a bismuth derivative of arsphenamine methylene sulphonic acid (the exact structural formula of which has not been established) with inorganic salts. It contains approximately 13 per cent of arsenic and 24 per cent of bismuth.

Actions and Uses.—For the treatment of syphilis. According to Stokes and Chambers, the drug is somewhat slower in its action than intramuscularly administered sulpharsphenamine or intravenously administered neoarsphenamine, but much more rapid than bismuth; and it has marked "tonic" properties. More or less severe pains at the site of injection have been reported.

Dosage.—Bismarsen is administered intramuscularly. The initial dose is 0.1 Gm.; for succeeding doses Stokes and Chambers used 0.2 Gm. each of the drug dissolved in ampule with 1 cc. of sterile distilled water at the time of administration, adding to the solution 2 to 3 drops of a 2 per cent solution of butyn. At the time of reporting, however, the authors questioned the desirability of using the local anesthetic. Weekly increasing to biweekly doses were used in treatment courses of twenty doses.

Manufactured by the Abbott Laboratories, North Chicago, Ill. U. S. patent 1,605,691 (Nov. 2, 1926; expires 1943). U. S. trademark applied for.

Bismarsen is prepared by adding a solution of potassium bismuth tartrate in water to an aqueous solution of 3,3' diamino 4,4' dihydroxarsenobenzene N,N' dimethylene sulphonate, dissolving precipitate with a measured quantity of sodium hydroxide solution, precipitating by pouring the clear solution into a methyl alcohol ether mixture, filtering off the precipitate and drying it in vacuo.

Bismarsen is a brownish yellow amorphous powder readily soluble in water, yielding a yellow solution which is slightly alkaline to litmus.

Add 2 cc. of diluted hydrochloric acid to 5 cc. of a 1 per cent solution of bismarsen: a white opalescence appears and dissolves almost immediately; a heavy white gelatinous precipitate develops in two minutes. Add 1 cc. of diluted nitric acid to 5 cc. of a 1 per cent solution of bismarsen: the solution gradually turns brown and yields a precipitate. Add 1 cc. of trinitrophenol solution to 5 cc. of a 1 per cent solution of bismarsen: no apparent reaction takes place (*distinction from silver arsphenamine and potassium bismuth tartrate*). Bubble hydrogen sulphide through a 1 per cent solution of bismarsen: the solution darkens immediately but no precipitate is formed. Add 5 cc. of hydrogen peroxide solution to 5 cc. of a 1 per cent solution of bismarsen: the solution is at first turbid, then becomes a deep reddish brown with formation of a precipitate. Add 1 cc. of mercuric potassium iodide solution to 5 cc. of a 1 per cent solution of bismarsen: the solution yields a greenish yellow opalescence, which in turn assumes a dirty green color on standing. Add drop by drop 2 cc. of a 40 per cent sodium hydroxide solution to 5 cc. of a 1 per cent solution of bismarsen: the solution gradually darkens without any formation of precipitate. Add 0.5 cc. of a 2 per cent silver nitrate solution to 5 cc. of a 1 per cent solution of bismarsen: a dark red solution is produced (*distinction from arsphenamine*). Add 1 cc. of a saturated solution of bromine in water to 5 cc. of a 1 per cent solution of bismarsen: the solution yields a greenish brown precipitate (*distinction from sulpharsphenamine, neoarsphenamine and arsphenamine*). Add 0.5 Gm. of zinc dust and 5 cc. of diluted hydrochloric acid to 0.1 Gm. of bismarsen in a test tube, at the mouth of the tube hold a strip of filter paper moistened with 5 per cent cadmium chloride solution: the paper turns yellow in four minutes.

Transfer about 0.4 Gm. of bismarsen, accurately weighed, to a Kjeldahl flask, add 2 cc. of sulphuric acid and heat carefully; add 2 cc. of nitric acid a drop at a time, continue heating until brown fumes cease to be given off, cool and add water to make 120 cc.; if a white crystalline precipitate appears dissolve it with a few drops of hydrochloric acid; transfer to a 250 cc. beaker, add 7 Gm. of tartaric acid, neutralize with stronger ammonia water, add 10 cc. of magnesia mixture followed by 20 cc. of stronger ammonia water, allow to stand twelve hours, filter through a hard surface filter paper and wash the precipitate with 50 cc. of 2.5 per cent ammonia water, puncture the filter, transfer the precipitate into a 250 cc. beaker with washings, then add just sufficient hydrochloric acid to dissolve the precipitate, filter, wash the filter well with water, neutralize the filtrate with stronger ammonia water; add 1 cc. of magnesia mixture and 20 cc. of stronger ammonia water; allow to stand twelve hours; filter, using a prepared Gooch crucible; wash with 2.5 per cent ammonia water; dry at 100 C.; ignite at 700 C. for three hours; cool in a desiccator and weigh as magnesium pyroarsenate and calculate to arsenic: the arsenic content is not less than 12.50 per cent, nor more than 13.50 per cent. Transfer about 0.25 Gm. of bismarsen accurately weighed to an Erlenmeyer flask. Add 5 cc. of diluted sulphuric acid followed by 1 Gm. of powdered potassium permanganate, and 10 cc. of sulphuric acid in small portions; add just sufficient hydrogen peroxide to dissolve the brown precipitate; add 50 cc. of water; boil for twenty minutes; cool to 70 C.; saturate with hydrogen sulphide for twelve hours; filter using a prepared Gooch crucible; wash the precipitate with water, warm ammonium polysulphide, methyl alcohol, carbon bisulphide and acetone in the order named; dry at 100 C.; cool in a desiccator and weigh as bismuth sulphide (Bi_2S_3); calculate to bismuth: the percentage of bismuth found corresponds with the percentage of arsenic found multiplied by 1.86 (factor As to Bi in $C_{12}H_{21}O_{12}As_3Na_3S_3N_2Bi_3$) plus or minus 0.5 per cent.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JULY 16, 1927

WAR GASES AND TUBERCULOSIS

Those who would remind us that "a very large proportion of the misery borne by mankind is man-made" turn nowadays to experiences of the World War for their illustrations. They cite the epidemics that have followed in the trail of the great combat, the unexpected awakening of diseases that have long seemed to be dormant, and the widespread dissemination of objectionable parasitic forms of life into regions where they have been practically unknown. All these features have furnished new jeopardies and increased the obligations of public hygiene. But the recent conflict also created some entirely novel health-disturbing situations that could scarcely have been foreseen. Notable among them were the effects of the so-called war gases. The distressing immediate symptoms of gassing with their excruciating torture left in their wake the possibilities of prolonged deterioration of health. Invalidism and a comparatively early death were expected as the aftermath of the use of the newest weapons of war.

When the toxic gases were thus introduced it was, as Koontz [1] has pointed out, the natural reaction of the layman, as well as of the physician, to believe that their effects on the lungs would cause a predisposition to pulmonary tuberculosis. This early conclusion, hastily arrived at before there were any facts available for affirming or denying it, Koontz adds, has remained largely fixed in the minds of laymen, and also in the minds of a considerable number of physicians. It was also expected that old tuberculous lesions might become reactivated. A decade of post-war clinical observation has, in general, failed to substantiate the quite natural early expectations. Many, probably most, of the critical examiners of the survivors of war gassing will agree with Meade's [2] conclusion that "a man is no more liable to tuberculosis as the result of gassing than is a man who has never been gassed." A similar conviction, voiced by many writers, was thus expressed by Francine: [3]

> It is inconceivable that gas (as it is, and not what so many people consider it to be, or what it may have been) could reactivate tuberculosis, and available statistics and majority expert opinion go to prove that it does not do so. This view is endorsed by French, British and other authorities.

The almost complete unanimity regarding the clinical observations is supported by additional direct experimental evidence. For example, Koontz, the pathologist of the Medical Research Division of the Chemical Warfare Service, has made extensive tests on suitable animals. They demonstrate clearly that rabbits gassed with phosgene, mustard and lewisite are not more susceptible to tuberculosis than are control animals inoculated at the same time with the same dose of bacilli. The gassing of animals that already have well developed tuberculosis does not appreciably accelerate the tuberculous process. There are even some indications of occasional protective or ameliorating effects of gassing on the tuberculous processes. It is thus fortunate, indeed, that some of the early discouraging expectations of the devastating effects of the war gases have not been realized.

THE LIMITATIONS OF SCIENCE

In a discussion of some current tendencies in the promotion of chemical research, Mendel [4] of Yale University has uttered a frank warning against certain possible dangers in the present-day undue vaunting of the contributions of science to the welfare of mankind. He reminds us that the recent popular exaltation of physics and chemistry is in part due to the help which these sciences in particular furnished in the prosecution of the World War. As a consequence the sciences have come to be regarded by many as forces to conjure with—potencies for affording a solution to almost any question that is presented to the devotees of science. Of course, as Mendel points out, men of science realize that they cannot answer the riddles of life or solve the problems of industry on command; yet the larger public is beginning to assume that in the scientific disciplines a little enthusiasm and well directed energy will inevitably furnish the required solutions.

The physician is not unfamiliar with a comparable attitude in relation to the medical sciences. Perhaps there is a real compliment to research medicine expressed in the confident hope that a well equipped laboratory with a devoted investigator can promptly overcome all the barriers that cross the path to knowledge. However, scientific progress usually represents slow growth. Even diligent protracted effort does not invariably lead to the desired goal. "Disappointment turns to disillusionment and then to distrust. When

1. Koontz, A. R.: War Gases and Tuberculosis, Arch. Int. Med. **39**: 833 (June) 1927.
2. Meade, R. H.: The Late Effect of War Gas on the Lungs and Its Relation to Pulmonary Tuberculosis, J. Missouri M. A. **19**: 385 (Sept.) 1922.
3. Francine, A. P.: Tuberculosis and Poison Gas, Tr. Nat. Tuberc. A., eighteenth annual meeting, 1922, pp. 261-264; New York M. J. **117**: 25 (Jan. 23) 1923.
4. Mendel, L. B.: Some Tendencies in the Promotion of Chemical Research, Science **65**: 559 (June 10) 1927.

this occurs science is in danger of losing many an ardent admirer and perhaps not a few staunch supporters." It is not only the layman who is not inured to the frequent shortcomings of experimentation; the physician, too, may expect that a test tube or a beaker in the hands of a "laboratory worker" will surely give him the desired clue to some mystery of diagnosis; and like his untutored patient the practitioner may react with subsequent indifference to scientific methods if perchance the investigator has failed him a few times.

The scientific worker must have his courage sustained. As Mendel has remarked, joyous as it may be to acclaim the triumphs of science, is it not also desirable to educate the auditors with respect to the ways and means, the trials and errors, by which alone continued and permanent contributions are assured? The recognition that knowledge is finite, that progress involves change, that traditional beliefs are subject to revision, needs to be promoted. In medical research, as in other fields of science, failure in one endeavor should lead to fresh effort and new attacks on the unknown. Those who are engaged in the work are quite as likely to be discouraged by the undue expectation of others as by their indifference.

VISCOSITY OF THE BLOOD IN SHOCK

Shock has been described as a condition in which there is more or less paralysis of the sensory and motor portions of the reflex arc, with profound disturbances in the circulatory system, subnormal temperature, and frequent and shallow respiration.[1] This formidable array of symptoms is not more portentous than the distressing phenomena encountered not infrequently in clinical experience. Although the subject can scarcely be said to have required new interest to promote its investigation, the medical problems of the World War focused attention on it. Perhaps the most significant outcome of the war-time investigations was the growing conviction that shock is not an individual entity. Whenever some single conspicuous etiologic possibility was critically considered, other causative factors would present themselves for equally serious recognition. They have been rehearsed from time to time in THE JOURNAL. Today it is probably reasonable to conclude that shock is due to a variety of causes, some of them, however, claiming a greater practical significance than others. One may read of hemorrhagic shock, anesthetic shock, toxic shock, nervous shock and, in particular, surgical shock, each demanding somewhat special consideration.

The symptoms of these various conditions may be differentiated into those of primary and those of secondary importance. The fall of blood pressure has always been a prominent manifestation, inevitably bringing with it a train of disagreeable sequences. The decrease in arterial tension may be attended by an accumulation of blood in the liver and larger veins of the abdomen, so that the condition has actually been referred to as a "bleeding into the veins of the abdomen." For this, failure of the vasomotor mechanism, "capillary poisons," and increased peripheral resistance, among other factors, have been held responsible. The most recent theory to strive for recognition has been formulated by Waud.[2] In an experimental study of anaphylactic shock as well as the shock resulting from injection of certain toxic agents, he has noted an unmistakable reduction in the viscosity of the blood. Ten years ago the late Sir William Bayliss[3] showed that a 30 per cent reduction in the viscosity of the blood, produced by a withdrawal of blood and its replacement by an equal amount of saline solution, is accompanied by the same percentage reduction in blood pressure. Waud argues that the reduction in viscosity causes the fall in blood pressure because of the fact that the less viscid blood passes through the small arterioles more readily, and thus the pressure and blood volume in the capillaries are suddenly increased. If the reduction in viscosity applies also to the endothelial cells of the capillaries, it may conceivably become a contributing factor in the production of edema in shock. There is experimental evidence to show that a lowering of the viscosity of the cell surface results in more rapid diffusion of substances through the cell. Accordingly it would be plausible, in Waud's opinion, to conclude that the initial lowering of the viscosity of blood in conditions of shock may be associated with a lowering of the viscosity of the surface layer of the endothelial cells of the capillaries, thus allowing a more rapid passage of the fluid contents of the blood into the tissues, and thereby increasing the amount of fluid in them.

TESTS OF CIRCULATORY FITNESS

The examination of the cardiovascular reactions of persons has become a conventional method of estimating something of their physical fitness. In the clinic the same principles have been applied to determine, for patients with circulatory deficiencies, the extent to which various forms of physical exercise may be warranted; likewise the improvement or the reverse that may attend the progress and treatment of the disorder. In the tests proposed by Schneider[4] of Wesleyan University the data employed are the pulse rates during recumbency and standing, the increase in the frequency of the heart beat when the standing and reclining postures are compared, the acceleration of the pulse rate by a standard exercise, the time required for the pulse rate to return to normal after the exercise, and the change in the systolic arterial blood pressure when a change is made

1. Macleod, J. J. R.: Physiology and Biochemistry in Modern Medicine, St. Louis, C. V. Mosby Company, 1926.

2. Waud, R. A.: Nature **117**: 487, 1926; Sudden, Transitory Reduction in the Viscosity of the Blood as a Cause of the Fall in Blood Pressure in "Shock," Am. J. Physiol. **81**: 160 (June) 1927.

3. Bayliss, W. M.: Proc. Roy. Soc. **89**: 380, 1917.

4. Schneider, E. C.: A Cardiovascular Rating as a Measure of Physical Fatigue and Efficiency, J. A. M. A. **74**: 1507 (May 29) 1920; Mil. Surgeon **52**: 18 (Jan.) 1923.

from recumbency to standing. It is believed that a slow heart rate in recumbency and standing, with a small difference between the two, a slight acceleration of the heart rate in exercise, with a quick return to normal afterward, and a rise in the systolic arterial blood pressure on standing, are excellent health signs and that in the physically fit individual the heart and vasomotor system are, so to speak, tuned to a different pitch than in the unfit or unhealthy person.

In her recent studies at the Harvard School of Public Health, Turner [5] demonstrated that even in healthy persons the change from a reclining to a quiet sitting or standing posture is attended by a fall in the circulatory minute volume. This implies a common lack of perfect adjustment to the increased needs of the erect position. Turner has described the essentially difficult task of the circulation as that of getting blood to, and not from, the heart. In the quiet erect position the usual aids to the return of blood to the right heart during exercise are lacking, there is no rhythmic muscular motion, and there is little increase of thoracic aspiration. On the other hand, because of gravity, there is a difficulty in the return of the large amount of blood below the level of the heart. It is possible that the vertical abdomen with its unsupported ventral wall may account for the unsuccessful return of blood to the heart at least in some persons.

The holding of a quiet standing position through a period of several minutes is a more difficult task than has been thought by many. Turner [6] has ascertained that persons are frequently found whose circulation adapts itself with apparent ease to strenuous exercise yet who find quiet standing more difficult, as is shown by their reactions both subjective and objective. The best circulatory adjustment, such as is observed in persons well trained physically, is one in which the minute volume of the reclining position is maintained during standing. Systematic comparisons of the outcome of Schneider tests and the new Turner tests, including records of the heart rate and blood pressure involved in the response to long standing rather than exercise, indicated a fair degree of parallelism between the scores. The essential mechanical difficulties involved in maintaining the erect position suggest that tests based on the change from reclining to a more or less prolonged period of standing still are likely to yield differential results quite as suggestive as the more commonly used comparisons of exercise versus rest. Persons who stand most easily and successfully from the standpoints of objective appearance and lack of fatigue are those in whom there is a slow rate and a relatively large pulse pressure, indicating a heart adequately filled between beats. Inadequately filled hearts attempt to maintain an adequate pressure by an increased rate. Thus the low pulse pressure and the rapid rate become indicative of a low output per minute. Exercise facilitates the maintenance of the circulation in the upright position. As Turner concludes, an entirely successful meeting of the circulatory demands of prolonged standing may be an achievement which is reached only by an apparatus capable of the most perfect and responsive adjustment to relatively slight stimuli.

5. Turner, Abby H.: Am. J. Physiol. **80**: 601 (May) 1927.
6. Turner, Abby H.: The Adjustment of Heart Rate and Arterial Pressure in Healthy Young Women During Prolonged Standing, Am. J. Physiol. **81**: 197 (June) 1927.

Current Comment

FEE-SPLITTING QUACKERY

"Radithor" is one of the numerous pieces of quackery in the field of radioactivity. It is exploited by the Bailey Radium Laboratories of East Orange, N. J., the moving spirit of which is one William J. A. Bailey, whose past record with "patent medicine" concerns and a fake engineering corporation was dealt with in THE JOURNAL, January 29. The Radithor quackery consists of thirty half-ounce bottles of distilled water which is alleged to be radioactive. No less than thirty bottles can be purchased; and the price is $30. That is, the price to the sucker who happens to be a layman is $30; to the easy mark who can write M.D. after his name, it is $25. There are two order forms, one, the "Standard Order Form" that the layman fills out; the other, the "Special Order Form for Doctors' Use Only." This form states that "when patient buys direct, we allow doctor a $5 credit on all orders." The physician who would order Radithor must be weak not only in medicine but also in morals.

McCOY, HEALTH COLUMNIST

In *Hygeia* for August appears an analysis of the volume called "The Fast Way to Health," published by one Frank McCoy [1] in connection with a column of so-called health advice appearing daily in some newspapers. Dr. Hill, who is professor of bacteriology and of nursing and health of the University of British Columbia, calls attention to only a few of the more glaring crudities, medical and dietetic, that appear in the volume mentioned. McCoy is a chiropractor who now calls himself "Dr.," although he formerly headed a little private notion styled "physculpractic," presumably a combination of physical culture and chiropractic. The fact that such preposterous bilge as is contained in the McCoy opus and in the daily columns can be sold to the public is not astonishing in view of the alarming extent of ignorance of the human body and of its functions among our adult population. It is amazing, however, that editors—men supposed to have wide knowledge and a wide grasp of human affairs as well as sound judgment—would recommend the expenditure of real money for the piffle that characterizes the daily columns of health advice. Any editor who cared enough about the truth to inquire of his own state university faculty could with but little trouble find out the hopelessly fallacious nature of the statements made by McCoy and their danger in relation to the health

1. Hill, H. W.: More McCoy Misinformation: The Fictions and Fallacies of "The Fast Way to Health," Hygeia **5**: 405 (Aug.) 1927.

of the public. True, Mr. Babe Ruth asserts that the McCoy statements are serviceable; but the care of a cancer of the lip is not at all the same procedure that is involved in whacking a horsehide covered sphere of rubber and twine with a four foot piece of lumber. Editors may plead public demand for the publication of the bogus diaries of Peaches Browning and the murderous Mrs. Snyder; such demand as exists for the McCoy fallacies is created by the editors themselves.

Association News

CONFERENCE ON PUBLIC HEALTH

Held in Chicago, March 24-25, 1927

(Concluded from page 123)

Economics of Public Health

DR. JOHN A. FERRELL, Director for the United States, International Health Board of the Rockefeller Foundation, New York.

This paper was published in full in the last issue of THE JOURNAL.

DISCUSSION

MR. BARRY C. SMITH, Commonwealth Fund, New York: I suppose I have shown temerity to induce the Commonwealth Fund to enter the health field. Probably our lack of expert knowledge in the field was what led us to consult the expert and the physician. In our health demonstration program we have first a national board or committee, to which is delegated the specific directions. On that board we have five physicians, three of whom have had wide experience in public health. In approaching the question of establishing demonstrations in four local communities, in each case we have conferred not only with the local health board but also with the state board of health. In setting up the staff for those demonstrations we have in each instance put an experienced, trained public health physician, M.D., in charge, and since our point of departure was child health, we have placed the medical service in the hands of a competent and experienced pediatrician. In each case, when we have entered a community in order that there might be no misunderstanding, no friction with the practicing physician, we have early held conferences with the local medical society, and we have seen to it that the procedure to be followed in the educational and preventive work of the demonstration was acceptable to the local practitioner as represented in that society. So far as our particular demonstrations are concerned, we do not seem to have become involved in controversies as to whether the official or the voluntary health agency was to dominate or was to be subordinate. Each demonstration program has been considered not as a separate entity but as an adjunct and a part of the local health department program, and in every demonstration we have endeavored to develop the opportunity afforded the local health department, not only in the work it is doing but to the extent to which it feels it is able and desires to take over little by little the work the demonstration is doing. I think there has been a great deal of feeling (I do not mean feeling in an unpleasant sense) that the demonstrations of the Milbank Memorial Fund and of the Commonwealth Fund were spending perhaps more money than was justified because of the fear that the standard thereby set would be beyond the rest of the country. We know that when the public appreciates the value of particular material improvement, the money is forthcoming. I believe that the expenditures in the field of public health today, taken by and large throughout the United States, are as small as they are, not because the money is lacking to put on a complete program such as would really protect the health of the citizens of that area, but because the public has not yet become educated as to the importance of public health work. I expect to see the time when the average community in the United States is not going to question the expenditure of 25 or 50 or 75 cents but it is going to demand an expenditure of from $3 to $5 per capita.

DR. MATTHIAS NICOLL, Commissioner of Health, State Department of Health, Albany, N. Y.: Expenditures for public health are not what they should be, but I think Dr. Ferrell's statistics, certainly as regards my own state, give a false impression. New York State is in a unique position in that the care of the health of half the people of the state, numbering approximately eleven million, is under the state commissioner of health, and the other half under the New York City commissioner of health. The state legislature appropriates money almost solely for health work under the state commissioner of health and not for that in New York City. For that reason, in arriving at the per capita expenditure for public health in New York State, Dr. Ferrell should cut in two the population benefited, which would double the per capita expenditure as reported, and put us on a plane at least equal to Florida, or else add the appropriation for the New York City Health Department, exclusive of hospitals, which I believe is some three million dollars. This does not take into account the large sums spent in such cities as Syracuse, Buffalo and Rochester, which come out of the pockets of the taxpayers just as certainly as though they were appropriated by the legislature of the state. I think that if Dr. Ferrell will take into consideration all large local items expended for public health, the state of New York will come pretty near to heading the list of the states in respect to expenditures for public health purposes.

DR. B. FRANKLIN ROYER, National Commission for Prevention of Blindness, New York: I may speak from my personal knowledge in Pennsylvania. Dr. Ferrell has specifically taken out of the appropriation that which is set aside for the tuberculosis work. In Philadelphia, Pittsburgh and Scranton and in the other large centers of population, there are practically no other expenditures of state funds.

MR. JAMES A. TOBEY, American Public Health Association, New York: In connection with Dr. Ferrell's paper I should like to cite more recent statistics with regard to governmental expenditures. For the fiscal year 1926, ending June 30, the United States government appropriated for all public health purposes approximately $15,000,000, which is 0.5 per cent of the total national budget of approximately $3,000,000,000. As you can see, this sum amounts to approximately 12 cents per capita. The United States government still appropriates almost as much for animal diseases as it does for the public health of human beings. In 1926 it appropriated between $11,000,000 and $12,000,000 to the Bureau of Animal Industry, which sum is greater than the amount allotted to the United States Public Health Service alone, which gets around $10,000,000, of which only about $5,000,000, however, actually goes into public health work, for the rest is used for hospitalization and medical relief. The states as a whole probably appropriate about $45,000,000, that is, from official sources, including the state appropriations and those in counties and municipalities. In spite of the fact that public health under our form of government is primarily a state responsibility, the federal government appropriates one-third as much as all the states put together. Whereas the federal government appropriates $15,000,000 for public health, it appropriates $50,000,000 for medical relief, that is, for cure; in the states probably three times as much or more is appropriated for institutional work as for preventive medicine. Does it not seem reasonable that a little larger expenditure for preventive work, for public health activities, would result in a slightly less expenditure for relief?

DR. LINSLY R. WILLIAMS, National Tuberculosis Association, New York: I was interested in what Dr. Ferrell had to tell about the increase in the amount of money expended for health work. I feel convinced that if one would compare the increase expended for health work with the increase expended for almost any other branch of governmental activity, it would be found that in the other branches the increase had taken place more rapidly and was on a higher percentage basis than health work. The increase in 1919 from 63 cents to 82 cents in 1923 has not even kept up with the increase in

the cost of obtaining service, which I think should indicate pretty clearly to health officers that the probabilities are the majority of their staff have not received an increase in salary commensurate with the increase in cost of living or diminution in the value of the dollar. I quite agree with Mr. Barry Smith that we have not begun to convince the people they can afford to spend a great deal more on health work, and give the health officers a fairly decent salary and a little more security of tenure of office.

Mr. James L. Fieser, American National Red Cross, Washington, D. C.: This discussion draws into the picture a third element that is directly concerned and may be called the raw material of this discussion; namely, the people who are ill and the people who wish to preserve health. It would be interesting if we could have a map which in various colors would indicate the degree of development of public health work and public health thinking in its various gradations. It would show the areas in which health facilities are nonexistent or where they are limited to the facilities of the private practitioner and the most elementary kind of hospital. One of the things that contribute to rural discontent is the fact that the facilities do not exist for the average citizen, Mr. Raw Material, in his community. What may we as agencies, public and private, and as individual representatives of a profession and as citizens do? Is that raw material something that could be harnessed up with some of these issues not in debate? This May if you go to Mansfield, Ohio, on a given date you will see literally thousands of people in town, probably 4,000 or 5,000 children in parade, with reviewing stands and bands and that sort of thing, on the subject of health. Every one of these children has been examined by physicians throughout the county, and each proudly wears its blue ribbon or whatever other index it might be, somehow epitomizing this thing. The child, for instance, that has been hesitant about a tonsillectomy is eager to have it. Of course, that goes back to the private practitioner. The child is eager to have the operation so it may participate in this parade. Of course that is show, but nevertheless it does indicate something of that potential force which in a measure we have neglected in America, that thing that represents this raw stuff, me, a layman, my wife, my child. Rotary, Kiwanis, the great orders of one kind or another, the Shrine and so forth, again with their particular grouping, constitute raw material which can be put into harness, if we have something positive to give. If we do not supply it they will initiate it themselves, because they are the victims, after all, of this whole thing. Perhaps increasingly, quietly, naturally, in national get-togethers like this, in state get-togethers and in our local and county get-togethers, representing the medical profession, health activities, the laymen of the United States and the average citizen, man, woman and child, we can begin somehow to do exactly what is shown on many of these maps and charts; namely, to increase the number of sections which carry the color indicative of a progressive thought and a united cooperative action.

Dr. S. W. Welch, Chairman, Alabama State Board of Censors and State Health Officer, Montgomery, Ala.: We ought to be congratulated on this array of statistical data which Dr. Ferrell has brought us, and there is only one phase of the question which I wish to debate, and that is the development of the poorer areas, the poor counties. That could be handled by increasing state appropriations to the point of establishing health organizations in those counties that were not able, for the time being, to establish them for themselves. It would be a wise policy, if we could all come to it, of the wealthy centers of the United States helping out those areas that are less fortunate.

Mr. John A. Kingsbury, Milbank Memorial Fund, New York: I think we would all agree with Dr. West that we should not go too fast in public health work and we should not spend too much money in any community on health demonstrations, but the two questions really are, What is too fast? and What is too much money? These are two things on which we should get together because the doctors have a different idea about them than the social workers have, and perhaps neither is right. One of the greatest demonstrations the Rockefeller Foundation has ever made endeavored to show what can be done in the poorer counties with a limited amount of money. You can get the people to spend more than they ever had any idea they could spend. I will say that practically every word Mr. Smith said concerning the policy of the Commonwealth Fund applies to the Milbank Foundation. Every move we have made has been made on the advice of the best medical men and the best health experts we could command. We are trying to find out how much a community can really afford to spend. We are trying not to spend more money than the people can eventually spend themselves. We trust we are not going too far or too fast. Let us have such a conference committee as Dr. Fisher has proposed, and find out.

Secretary West: When this conference was proposed, there was some correspondence with most of the health agencies of the country. It was clearly indicated in replies that came to our letters that some of them feared somebody was going to do something to them. That is why it was stated in the invitations sent out that there would be no voting. I can assure this body, however, knowing the Board of Trustees of the American Medical Association as I do, that they will be glad to have any suggestions that may be offered. I think Dr. Fisher's suggestion is a splendid one and it is eminently proper.

Dr. J. A. Ferrell, Director for the United States, International Health Board of the Rockefeller Foundation, New York: I anticipated the criticism of Dr. Nicoll. Of course the same criticism might come from Ohio. It has Cincinnati, Cleveland, Columbus and Toledo. California has San Francisco and Los Angeles. Any attempt to correct the figures for the various states so that the local expenditures would be excluded would prove more difficult than the task I undertook. The fact that New York City is not cared for by the New York state health department really bears out the trend of thought I was trying to bring out, that perhaps New York City really belongs to the nation. It is the principal money market; it is there that you have to have stocks transferred. Our principal shipments take place there. So New York is really a part of the nation, and I think we should so regard it. Likewise we might regard some of the other large centers of population as national rather than local assets. Dr. Welch, for example, might object to the figures for his state. I show only 8.3 cents per capita sent in Alabama, but if you will investigate you will find that more than 50 per cent of the population of the state are served with full-time county health organizations that are conducted under the general leadership and supervision of the state department of health, and toward the budget of each one the state health department makes a direct contribution; so that it is not practicable to make a complete analysis. It would be utterly impossible to take up every state and community and correct the figures. A certain amount of generalization is necessary. Representatives of certain agencies that are cooperating in the conduct of health demonstrations seem to feel they are accused of spending too much money. Much of the expenditure is for the collection of information, and there might have been less misunderstanding if these field investigations could have been designated as fact-finding field studies, rather than health demonstrations, because a considerable amount of money that is shown as per capita expenditure really goes into what is virtually research in the field of administration and application of existing knowledge to the control of disease. There has been some discussion here with regard to the relationship of physicians generally throughout the country with regard to health work. Of these 330 county demonstrations that have been established, I am more or less familiar with the conditions of approximately 200. Unless the leading local physicians had lent themselves freely and generously to aiding the health authorities, I do not believe the demonstrations would have been established. Generally the health officer, if he will present a sound program to the county medical society or to the leading members of the local medical profession, is able to get a group to go with him to the appropriating bodies of the county and get the necessary funds with which to inaugurate this work. It is a change of atmosphere to go from these counties, where these local physicians spend their time and ability and influence so

generously in the establishment of some of these organizations, to certain business meetings at which the bugaboo of state medicine is so loudly cried. It does not fit in with the situation that we encounter locally. I believe some of these state health officers who deal locally with the medical organization will bear that statement out. With regard to what we are going to do in the future in regard to public health, many of us have hopes. In general, public health authorities have their feet on the ground. They are winning confidence; they are getting backing from the taxpayers, and the result in the public health movement may be cumulative. Our problems and difficulties are almost identical with those of the educators in developing a better system of public schools, and in that field they have found the problems are largely economical.

DR. LINSLY R. WILLIAMS, National Tuberculosis Association, New York: The health departments find difficulty in securing money for propaganda work, and if they do secure an appropriation of any size for health work, the pamphlets and leaflets are bound to advertise the name of the health officer. Some of our legislative bodies have become rather incensed with the notoriety gained by a few health officers and have summarily proceeded to discontinue or markedly cut down the appropriation. I do not see how it is possible, with that point of view, for health departments to get any large amount of money for educational work, and in the private associations they are limited, to a certain extent, by funds, and distribute literature frequently which they know is not printed in the best possible form and where illustrations are crude and not of the best type.

DR. MORRIS FISHBEIN, Editor, THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION and *Hygeia*, Chicago: The matter just brought up is one of the most important that can come before the conference. I am convinced on careful study of the matter, and not from a cursory impression, that much money is being wasted on printing by health officers, by state health officials, by voluntary health organizations and by national organizations of all types in the health field. More money is being wasted in printing than in perhaps any other form in which money is being wasted, and that even includes some of the large demonstrations. The printed material that comes across my desk as editor of THE JOURNAL and as editor of *Hygeia* indicates that a vast amount of material that is not going to be read is being issued by all sorts of organizations. The point made by Mr. Smith as to the sending and distribution of pamphlets is also important. In Chicago, Dr. Bundesen sends a letter to the mother one month after the birth of a child. This is a personal letter, announcing that one month has passed and that there are certain things to be taken into account. Another letter goes each month to the mother. In mingling with various groups about Chicago, in attending meetings of women's clubs and of all sorts of organizations, I have yet to find one group in which the discussion of health education was brought up in which the personal health literature had failed to make an impression. I mentioned yesterday a survey that had shown that there were more than 100 different books on the care of the baby during the first year published in the United States in the last three years. In those books the advice varies, from advice to begin artificial feeding at once, which everybody will agree is bad advice, to advice to fed the baby by the breast every three hours and oftener. In fact almost every possible difference in feeding the baby is brought out in these various pamphlets. Certainly the most important thing in all of this health propaganda work and health education work is in keeping public confidence, and public confidence cannot be kept when authorities, or those who presume to be authorities, disagree in simple matters. Recently in northern Minnesota the health official decided to immunize against scarlet fever every child in the community. He chose for the purpose of immunization a preparation that had not been passed on by any reliable authority as a reliable preparation. The response to this attempt was a series of letters from most of the physicians practicing in the community addressed to this office asking by what authority any public health official could immunize children against scarlet fever with a preparation not established. If one looks into the background of this situation, the probability is that a commercial house was trying to establish its scarlet fever antitoxin and persuaded the health officer to make the demonstration. This is the way in which this thing comes directly to the general practitioner in the field. He finds a divided group of interests trying to promote health education, and he is unable to make his decision as to how he shall act in his relationship to the matter. The only way to get his proper reaction is for the state health agency or the county health agency, the volunteer health agency and the physicians to get together, to agree as to the things that are to be taught, and to cooperate in putting the teachings into effect.

CHAIRMAN HECKEL: Is there anything further? If not, I should like to say just a word or two for the members of the Board of Trustees of the American Medical Association who made this conference possible. They are highly appreciative of your generous response to the invitation and of your attendance at this conference of the altruism which prompted you to come here and participate in its proceedings and also for the high grade papers which were read and for the illuminating discussions which followed, and as you leave we will not say goodby but au revoir.

DR. W. R. REDDEN, American National Red Cross, Washington, D. C.: I do not feel that this meeting has been at all one-sided. I think the visitors and the guests of the House of Delegates have greatly benefited by the conference. We therefore wish to express our appreciation to the House of Delegates for their invitation to the conference and for their hospitality during the meetings.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Personal.—Drs. John C. King, Pasadena, and Robert F. Rooney, Auburn, have been elected honorary members of the California Medical Association.——Dr. Raymond J. Striegel has been appointed health officer of Signal Hill.——Dr. Samuel B. Randall has been appointed health officer of Santa Cruz County to succeed Dr. Alfred L. Phillips.

Medical Golf Association.—There were ninety-eight members, including families and guests, in attendance at the tournament of the South California Medical Golf Association at Lake Arrowhead, June 25-26. Prizes were won by Drs. Earl W. Wells, Los Angeles, Charles Sidney Stevens, Santa Barbara, and John Vruwink, Walter R. Crane, William H. Kiger and Oliver W. Butler, Los Angeles. Prizes for the low net score for the year 1927 are to be presented in the form of two cups each about 40 inches high. There will be four other cups presented also, practically all of them on handicap, so that every member of the association has an equal chance to win, provided he plays in at least six tournaments during the year. This association will play the North California Medical Golf Association, September 24-25, in the northern area. There are now 175 members in the southern association.

COLORADO

Progress of School of Medicine.—During the three years that the University of Colorado School of Medicine has occupied its present location at Denver, the two hospitals have been filled to capacity and applications of students for admission to the school have exceeded the capacity. The class of fifty-six students entering last fall was selected from 119 applications, and 175 additional applications were received after the class was filled. The freshman class will be limited to seventy-five students. There is now a tax of one-tenth mill for the school of medicine, which puts the school on a sound financial basis, making it unnecessary to ask for support from the General Education Board, which, for three years, has contributed $50,000 annually toward running expenses. The millage tax also makes it possible to place the heads of all full-time departments on a twelve months basis instead of a nine months basis as at present. The

clinics at the Colorado General Hospital and the Psychopathic Hospital are open at all times without charge to visiting physicians, and special courses for graduates are being outlined for the summer. Since the general hospital opened in December, 1924, a total of more than 6,000 patients has been admitted from fifty-seven of the sixty-three counties of the state. The school of medicine does not now make a special appeal for funds. Its friends should know, however, that through special gifts or provisions in wills, medical research and education in the state can be encouraged. Endowments for student scholarships can be established with gifts of $3,600 each; endowments for research scholarships, with from $10,000 to $20,000 each; endowments for special clinics, with from $10,000 to $15,000 each, and an endowment for medical research, with from $100,000 to $200,000, the income to be used in aiding any department conducting promising original work.

DISTRICT OF COLUMBIA

Two per Cent of Drivers Found Color Blind.—The introduction of a colored lighting system as a means of controlling the automobile traffic in the District of Columbia has disclosed that 2 per cent of the persons seeking permits to drive an automobile are color blind, and unable to distinguish the green from the red light. Accordingly, the district traffic bureau has adopted the policy of refusing to grant permits to drive to such persons, as the colored lights serve only to confuse them and to increase the possibility of accidents.

FLORIDA

Hospital News.—The district hospital being constructed on Orange Avenue, Daytona Beach, is now under roof and will be ready for occupancy about January 1.——The construction of the $150,000 Alachua County Hospital at Gainesville is under way.

Society News.—Dr. William E. Van Landingham was elected president of the Palm Beach Academy of Medicine, May 25; among the speakers at this meeting was Dr. Bailey B. Sory, Jr., Lake Worth, whose paper was on "Uterine Fibroids."——Dr. Howard A. Kelly, emeritus professor of gynecology, Johns Hopkins University School of Medicine, Baltimore, addressed the Pinellas County Medical Society, recently, on emergencies in gynecology; Dr. Kelly, who is spending his vacation in Orlando, has presented property to Orange County for a public park, according to the *Journal of the Florida Medical Association*.——The Dade County Medical Society held a banquet, May 6, in honor of Dr. John A. Simmons; among others, Dr. Walter C. Jones, Jr., read a paper on "Pelvic Infections."

Chicago

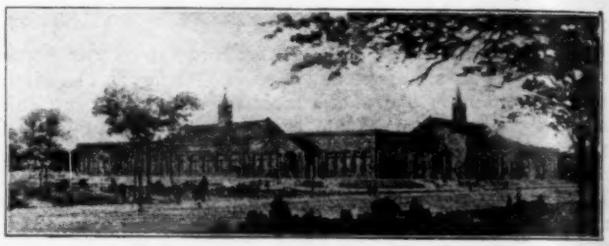
Thirty-Three Unlicensed Cultists Fined.—Thirty-three unlicensed cultists of Chicago were fined in Judge Hamlin's municipal court, July 8, on charges of practicing without a license. Many of the cases had been pending since last October. The following chiropractors were fined $500 each:

J. E. Teal, 2533 Milwaukee Avenue
Carl A. Upson, 1105 East Sixty-Third Street
L. E. Pearson, 400 Irving Park Boulevard
Walter J. Nowak, 4652 South Ashland Avenue
John Nowak, 1224 Milwaukee Avenue
Peter Sumaitis, 4652 South Ashland Avenue
A. M. Galbraith, 5814 West Chicago Avenue
Gertrude J. Bogard, 3318 Lawrence Avenue
A. J. De Roeck, 3153 Lawrence Avenue
"Dr." William Karl, 4750 Broadway
Asa P. Dyer, 4950 Milwaukee Avenue
Mrs. Asa P. Dyer, 4950 Milwaukee Avenue
Ira G. Brown, 2501 North Kedzie Avenue
"Dr." Patrick J. McCarthy, 2216 Jackson Boulevard

The following naprapaths received fines of $100 each:

Robert L. Orrick, formerly 130 North Wells Street; has left the state
F. A. Manelis, 6117 South Talman Avenue
Louis A. Rose, 501 South Crawford Avenue
J. Francis Doherty, 159 North State Street
A. G. Schlesinger, 159 North State Street
H. A. Riley, 159 North State Street
C. E. Kerrick, 159 North State Street
Lenore Yates, 159 North State Street
Lester Gill, 159 North State Street
Olive Harvey, 159 North State Street
Jennie Bowman, 162 North State Street
Helen Woodgate, 108 North State Street
William Stelling, 108 North State Street
Wallace Severance, 108 North State Street
A. G. Yancey, 108 North State Street
James E. Taylor, 7912 South Halsted Street
Ira C. Atherton, 4554 Broadway
Albert Murry, 5206 West Chicago Avenue
Charles I. Lamon, 360 North Laramie Avenue

New School for Crippled Children.—The latest addition to the schools for crippled children of Chicago is the Walter S. Christopher School for Crippled Children which was opened, January 17. It occupies the entire block between Fiftieth and Fifty-First streets and Artesian and Campbell avenues, and was erected at a cost of $492,000. The building is designed especially for the care of crippled children; it is one story high, of modified Spanish architecture, and has a court with spacious lawns and playgrounds, eight porches, ramps for those who use wheel chairs, and provisions for 500 pupils. The board of education arranges for the transportation of the crippled children to hospitals, clinics and to the parks and other places of amusement, and provides them without charge with the midday meal. The principal of the school, Anna Henry, states that the physical care and corrective treatment of these children takes first place in the school's program. Parents are requested to give permission when a child enters the school for him to be taken to any necessary hospital, clinic or physician for examination or treatment. If the child is not already under the care of a private physician, he is taken promptly to an orthopedic surgeon for examination, and tuberculous cases are taken to the Municipal Tuberculosis Sanitarium dispensaries for examination. Regular school physicians call at the school to give routine examinations and to prevent outbreaks of contagious disease. The Chicago Heart Association sends a physician a half day a week to supervise the cardiac cases, while the corrective therapy recommended is carried out by the staff at the school, comprising three physical therapists, appointed by the board of education, a nurse furnished by the Visiting Nurse Association, and another furnished by the



Municipal Tuberculosis Sanitarium. There is a special speech teacher who works one day a week with children who have speech difficulties, and a teacher is assigned to visit the homes of the children to secure the cooperation of parents. Necessary operations are arranged for through the social service departments of the hospitals, and the best orthopedic surgeons give their services in the needy cases. Wheel chairs, crutches, braces and so forth are either given free or on easy payments through private funds. The educational program emphasizes occupational therapy and vocational training fitted to the peculiar handicap of the pupil. There is an assembly hall where the children drill and play and thus develop muscle control. In addition to the Walter S. Christopher School for Crippled Children, Chicago has the Spalding School on Maple Avenue, west of Ashland Boulevard and adjacent to the Home for Destitute Crippled Children, and rooms set aside in two other schools for the care of crippled children.

IOWA

Appointments at Iowa.—Dr. Dorothy S. Dimond, formerly assistant anesthetist, has been appointed chief of the anesthesia department of the State University of Iowa College of Medicine, Iowa City, effective, July 1. Dr. Dimond is a graduate of the University of Minnesota Medical School, Minneapolis, 1922. Dr. Homer W. Scott, Fort Dodge, has been appointed assistant professor in the department of surgery. Dr. Scott graduated at the state medical college in 1919, and was formerly connected with the department of surgery for about three years.

Keokuk Alumni Meeting.—The alumni of the three medical colleges, formerly located at Keokuk, held a joint meeting, June 9, which was attended by 244 out of the 907 living alumni of these schools whose addresses are known. In addition there were in attendance many families, making a total of more than 700 who were entertained by the physicians of Keokuk at the country club. It has been nineteen years since the last class graduated and the college merged with the State University of Iowa Medical Department. Officers were elected and another meeting will be held in June, 1928.

LOUISIANA

Personal.—Dr. E. W. Alton Ochsner has been appointed senior surgeon to the Charity Hospital, New Orleans, succeeding in that position Dr. Rudolph Matas.——Drs. Daniel R. McIntyre and Dorf Bean, Shreveport, have been appointed local medical examiners for airplane pilots by the U. S. Department of Commerce.——Dr. Henry W. E. Walther has resigned as editor of the *New Orleans Medical and Surgical Journal.*

Full-Time Organization in Surgery at Tulane.—The president of Tulane University announced at the ninety-third annual commencement, June 8, that the General Education Board has appropriated $150,000 to inaugurate a full-time organization in surgery in addition to the annual appropriation of the board of about $35,000 for the school of medicine. Other donations announced were an anonymous gift of $7,500 for the department of medicine and another anonymous gift of $9,750 and $15,000 from the General Education Board for the current expenses of the medical school.

The Fifes Were Pardoned.—The state pardon board granted a pardon, June 15, to chiropractors Joseph B. and Walter W. Fife, New Orleans, who were convicted a few years ago of practicing without a license, sentenced to thirty days in jail and the payment of a fine. The case was appealed until it reached the supreme court of the United States, and in each instance the decision of the lower court was sustained. The lieutenant governor of the state expressed his belief that the Fifes should be freed, the trial judge agreed to remit the sentence and the attorney general consented to the pardon. A petition with several thousand signatures was presented also. (THE JOURNAL, July 5, 1924; Nov. 1, 1924; Dec. 18, 1926.)

Hospital News.—The Baptist Hospital, Alexandria, is conducting a campaign for $100,000 to increase the bed capacity from 60 to 100, and to construct a new nurses' home.——Mercy Hospital, New Orleans, dedicated a new $250,000 wing, May 24, giving the hospital an addition of forty-one private rooms and six small wards, making the total capacity 117 beds. Mercy Hospital, which was first opened in 1924, was made possible by the gift of the buildings and grounds and an endowment of $160,000 by Mrs. Leonce M. Soniat.——The recent "strawberry week" for the benefit of the Charity Hospital, New Orleans, totaled about $3,150; it is expected that the drive "give a crate week" will become an annual event as a result of the success of the first venture.

MAINE

Rural Hospital for Farmington.—The Commonwealth Fund, New York, announces that the third of its series of rural hospitals will be erected at Farmington, Maine, a town of about 3,200 people, in a valley extending about 70 miles south of the Canadian border in the Rangeley Lake region. As with the other rural hospitals of the Commonwealth Fund, the local community will contribute about one third of the cost of the hospital and will assume the operating expenses. The fund will provide about $140,000 toward the cost of the construction of the fifty bed hospital, which will serve a wide range of surrounding country. About fourteen communities in eight states formally applied for the opportunity to build a hospital in connection with the fund. Farmington was chosen after a thorough study of the local needs and resources of each of these communities. Last year, similar arrangements were made by the Commonwealth Fund to build hospitals at Glasgow, Ky., and Farmville, Va.

MASSACHUSETTS

Personal.—Dr. George T. O'Donnell, Boston, has been appointed director of the tuberculosis division of the Boston City Health Department.——Dr. Henry P. Walcott, Cambridge, received the honorary degree of doctor of laws from Harvard University at the commencement, June 23.

Harvard Alumni Meeting.—About 100 alumni of the Medical School of Harvard University attended the annual meeting of the association at the school, June 22; the president, Dr. Philemon E. Truesdale, Fall River, presided. Among the speakers were Drs. Elliott C. Cutler, professor of surgery at Western Reserve University School of Medicine, Cleveland, and Elliott P. Joslin.

Orange Chiropractors Fined.—Glenton Thompson, a chiropractor of Orange, was found guilty in court, June 3, of practicing medicine without a license and was fined $300; he appealed. Hayden W. Allen, a chiropractor, was found guilty in the court at Orange, June 10, of practicing medicine without a license and fined $500; he appealed. Both these men are said to be graduates of the Palmer School of Chiropractic, Davenport, Iowa.

Dr. Arnold Appointed to State Board.—Governor Fuller appointed Dr. Horace D. Arnold, Boston, a member of the state board of registration in medicine, June 22, to succeed the late Dr. Charles E. Prior. Dr. Arnold, a graduate of the Medical School of Harvard University, was for several years a member of the House of Delegates of the American Medical Association, and later a member of the Council on Medical Education and Hospitals. He is a veteran of the World War, and was one of the original members of the National Board of Medical Examiners. For many years he was a teacher at the Harvard University and Tufts College medical schools.

Memorial Infirmary.—The Massachusetts Institute of Technology, Boston, is to erect a $150,000 infirmary to be named in honor of Richard Homberg, whose parents have made a gift of $100,000. The building will be four stories, forming a wing from the present main building near the Massachusetts Avenue side. The present infirmary will remain as the entrance to the new infirmary building. There will be two wards of five beds and four private rooms on the second floor; an isolation ward, operating room, kitchen, sterilizing room and a solarium on the fourth floor, and examination rooms, dressing rooms and offices on the first floor. Dr. George W. Morse, Jr., is the medical director and head of the department of hygiene at the institute; Dr. Louis W. Croke, assistant medical director, and Dr. Benjamin E. Sibley, assistant in the department.

MINNESOTA

Personal.—Major Roger Brooke, Jr., Medical Corps, U. S. Army, is spending three months at the Mayo Foundation, Rochester.

State Medical Election.—At the annual meeting of the Minnesota State Medical Association, Duluth, June 30-July 2, Dr. Charles B. Wright, Minneapolis, was elected president; Drs. Charles Bolsta, Ortonville, and Adolph G. Liedloff, Mankato, vice presidents; Dr. Earle R. Hare, Minneapolis, treasurer, and Dr. Edward A. Meyerding, St. Paul, secretary. The newly elected delegate to the American Medical Association is Dr. Jennings C. Litzenberg, Minneapolis, and the alternate, Dr. William F. Braasch, Rochester.

Hospital News.—The Webber Hospital, Duluth, erected at a cost of $200,000, was expected to be ready for occupancy in April.——A meeting was held at Rochester, June 28, to consider the need for a tuberculosis sanatorium in south central and eastern Minnesota. The entire boards of the county commissioners of Houston, Fillmore, Mower, Freeborn and Olmsted counties were present, and Steele County was represented by two members; many other interested persons attended the meeting. The facilities of the Mayo Clinic were tendered for the use of the district for this purpose. Another meeting was called for July 6 at Austin of all county commissioners of the counties mentioned, as well as others interested, to consider the question of making a tax levy to build a sanatorium for this district.

Annual Registration of Physicians Required.—All persons who were lawfully authorized to practice healing in Minnesota at the time that the Basic Science Act became effective will be granted a certificate without examination from the State Board of Examiners in the Basic Sciences, provided they apply to the secretary of the board for a certificate on or before Oct. 1, 1927, and present satisfactory evidence of having been lawfully authorized to practice healing before the act became effective. Such lawfully authorized persons who fail to apply for a certificate prior to October 1, may, at the discretion of the board, after paying a fee of $25, be issued a certificate of registration in the basic sciences at a later date. Another provision of the medical practice laws of Minnesota requires every person authorized to practice healing, and not excepted from the act, to register in January of each year with the secretary of the board of examiners which licensed him to practice, sending to the secretary his name and office address, and paying a fee of $5 for the years 1928 and 1929, and thereafter each year a fee of $2. The secretary will then issue a certificate for the current year which the registrant will display in a conspicuous place in his office. The present organization of the Minnesota State Board of Medical Examiners is as follows: Dr. Leon A. Barney, Duluth, president; Dr. Charles L. Sherman, Luverne, vice president; Dr. Alfred E. Comstock, St. Paul, secretary-

treasurer, and Drs. Edward T. Sanderson, Minnesota, George B. Weiser, New Ulm, Charles E. Caine, Morris, and Julian F. DuBois, Sauk Centre, members.

NEBRASKA

Veteran Physicians Honored.—The Richardson County Medical Society gave a dinner, May 4, in honor of two veteran members, each of whom has been in the practice of medicine fifty-one years: Dr. John A. Waggener, Humboldt, and Dr. John C. Shepherd, Rulo. Dr. Waggener has three sons who are physicians, and Dr. Shepherd has one son who is a physician and is now president of the Richardson County Medical Society.

Society News.—Dr. Gladys R. Henry Dick, Chicago, recently addressed the Phi Beta Phi banquet at Lincoln, and also the staff of the Lincoln General Hospital at a dinner. ——Dr. Harry Benson, Oakland, was recently elected president of the Nebraska Academy of Ophthalmology and Oto-Laryngology at the fourteenth annual meeting in Lincoln. ——Two hundred and forty-seven premedical students from various schools in Nebraska were guests of the University of Nebraska College of Medicine in May at its annual premedical exercises.

NEW JERSEY

Medical Director Appointed.—Dr. Edward M. Z. Hawkes was appointed medical director of the Presbyterian Hospital at Newark, June 16, to succeed Dr. Samuel E. Robertson, who resigned after fifteen years' service and was made medical director emeritus.

Hospital News.—Edward T. Bedford has made a gift of a new unit to the Norwalk General Hospital, Norwalk, Conn., to cost not more than $500,000. Mr. Bedford is president of the hospital association, and chairman of the board of the Corn Products Refining Company.

State Medical Election.—At the annual meeting of the Medical Society of New Jersey, Atlantic City, June 9-11, Dr. Walt P. Conaway, Atlantic City, was elected president; Drs. Ephriam R. Mulford, Burlington; Andrew F. McBride, Paterson, and George N. J. Sommer, Trenton, vice presidents; Dr. Elias J. Marsh, Paterson, treasurer; Dr. John B. Morrison, Newark, recording secretary; Dr. William J. Carrington, Atlantic City, corresponding secretary, and Dr. Henry O. Reik, Atlantic City, editor of the journal and executive secretary.

NEW YORK

Health at Yonkers.—Telegraphic reports to the U. S. Department of Commerce from sixty-eight cities with a population of about 30 million, for the week ending July 2, indicate that the lowest mortality rate (5.7) was for Yonkers and that the rate for the group of cities as a whole was 11.7. The mortality rate for Yonkers for the corresponding week last year was 7.2 and for the group of cities, 11.7.

District Society News.—At a meeting of the executive committee of the First District Branch, Cornell Club, New York, June 7, it was decided to hold the next annual meeting, October 20, in the Bronx.——The executive committee of the Second District Branch, met, June 7, at the Shinnecook Hills Golf Club, Southampton, and decided to hold the next annual meeting of the branch in Jamaica in October in a hall "near the railroad station." It was also agreed to invite several leading scientists to read papers.——The executive committee of the Third District Branch met at the University Club, Albany, June 1, and decided to hold the next annual meeting of the branch, October 1, at Troy; the program will consist of a series of clinics at the local hospitals, followed by a luncheon at the new Hendrick Hudson Hotel, and scientific papers.——The executive committee of the Fourth District Branch met at Glens Falls, June 9, and decided to hold the next annual meeting at Schenectady, October 11-12; the program will include a series of clinics at local hospitals and at the General Electric Company plant in the afternoon of the first day, and a banquet and scientific papers the next forenoon; it was also agreed that a discussion of postgraduate courses and periodic physical examinations, among other topics, should be included on the program.——The executive committee of the Fifth District Branch met at Syracuse, June 2, and decided to hold the next annual meeting of the branch at Syracuse, October 13, the Onondaga County Medical Society acting as hosts. Among other subjects suggested for the program were "Postgraduate Education" and "Public Relations."——The executive committee of the Sixth District Branch met at Ithaca, May 25, and decided to hold the next annual meeting of the branch, September 27, probably at Johnson City, the Broome County Medical Society acting as hosts. It was decided to include on the program demonstrations of periodic health examinations and of the medical work of the Endicott-Johnson Shoe Company, and to invite two outstanding men in medicine and surgery to read papers. ——The executive committee and presidents of the component county medical societies of the Seventh District Branch met at Geneva, May 24, and decided to hold the next annual meeting of the branch, September 29, either at Geneva or at Clifton Springs, to invite several prominent men to read papers and to have a widely known speaker discuss period health examination methods and demonstrate the manner of making and reporting the examinations.——The executive committee of the Eighth District Branch and some of the presidents of the component county medical societies met at the University Alumni Club, Buffalo, May 26, and decided that the next annual meeting of the branch should be at Glen Ayr, October 6. It was suggested that Drs. William S. Thayer, Baltimore, President-Elect of the American Medical Association, Charles Gordon Heyd, New York, and Charles W. G. Crampton, New York, be invited to read papers.

Report on Relation of Physicians and Health Agencies.—The joint committee appointed by the Medical Society of the State of New York and the State Charities' Aid Association to study working relationships between the medical profession and voluntary health agencies has made a report. The committee has held several meetings since January, each of which occupied the better part of a day. The report was unanimously adopted by the house of delegates of the state medical society, May 29, and has been approved by the board of managers of the State Charities' Aid Association. It is not submitted as a final solution of the questions involved, but is regarded as a document with which medical organizations and voluntary health agencies at present may work in full accord. The joint report recommends that county medical societies include the following in their programs:

(*a*) Accept the invitation from the voluntary health agency to designate certain of its members to serve as members ex officio on the board of directors or executive committee of the voluntary health agency.

(*b*) Study and consider any program of activities that may be referred to it by the voluntary health agency for information and suggestions; and, if such program is approved, make a public statement to that effect, and otherwise support the program so approved.

(*c*) Appoint a special committee on public relations to confer from time to time with similar committees appointed by the voluntary health agency on matters of mutual interest to both agencies.

(*d*) Report to the state medical society any matter as to which an accord has not been reached with the voluntary health agency, in the hope that through conference between the state medical society and the parent body of the voluntary health agency any such matter may be negotiated and adjusted to the mutual satisfaction of all concerned.

The report recommends with regard to the voluntary agencies that they include the following in their program:

(*a*) Invite the county medical society to designate a certain number of its members, say two, to become members ex officio of its board of directors or executive committees, if there be one.

(*b*) Lay its annual program of activities before the county medical society for information and suggestions.

(*c*) Appoint a special committee to confer with a similar special committee appointed by the county medical society about matters that come up from time to time in which both groups are mutually interested.

(*d*) Report to the parent body of the voluntary health agency any matter as to which an accord has not been reached with the county medical society, in the hope that through conference between the parent body of the voluntary health agency and the state medical society any such matter may be negotiated and adjusted to the mutual satisfaction of all concerned.

(*e*) Conduct at least one open meeting each year to which the members of the county medical society are specially invited.

The state medical society was represented on the joint medical committee by Dr. George W. Cottis, Jamestown, chairman; Dr. Wilber G. Fish, Ithaca; Dr. William Warren Britt, Tonawanda; Dr. Thomas P. Farmer, Syracuse; Dr. Terry N. Townsend, New York, with Dr. George M. Fisher, then president, and Dr. Joseph S. Lawrence, executive officer, as members ex officio. The State Charities' Aid Association was represented by Dr. Livingston Farrand, Ithaca, chairman; Homer Folks, Yonkers; John A. Kingsbury, Yonkers; Dr. Herman G. Weiskotten, Syracuse, and Dr. Linsly R. Williams, New York, with George F. Canfield, president, and George J. Nelbach, executive secretary of the state committee on tuberculosis and public health, as members ex officio.

New York City

Hospital News.—A fund is being solicited to build and endow the Gotham Hospital of East Fifty-Sixth Street. Three million dollars is needed for endowment, so that the charges for patients of small income may be kept low. The staff will be composed entirely of women physicians; nurses, the *New York Medical Week* states, will be on an annual

salary of $1,800. Each patient will have a separate room, and there will be no free treatment.

Personal.—Dr. Richard Kovacs is the director of the new department of physical therapy at the New York Polyclinic Medical School and Hospital. The department will serve for postgraduate teaching of physicians and nurses, and for clinical work in connection with a general hospital.—— Dr. William W. Blackman recently received a "gold diploma" to commemorate the completion of his fiftieth year in the practice of medicine.—— Dr. Jacques S. Uhr has been appointed assistant in pediatrics at the Knickerbocker Hospital.

University News.—Ninety-six graduates of Columbia University College of Physicians and Surgeons received medical diplomas at the commencement, June 1. The Dr. William Perry Watson prize for notable work in gynecology and pediatrics was awarded to Walter F. Duggan, Monson, Mass., and the Harold Lee Meierhof Memorial prize for research in pathology was awarded to Sylvan E. Moolten, Rockville Center, New York.——The Long Island College Hospital presented diplomas to seventy-one graduates in medicine at the commencement, June 2.

Society News.—The Kings County Medical Society has been requested to prepare plans for a health center for Coney Island; a gift of $50,000 by Mr. Morris Goldberg is available for the establishment of a health center.—— The Harlem Tuberculosis Institute of the New York Tuberculosis and Health Association is conducting its fifth annual postgraduate course for the negro physicians from June 15 to August 3 at the Tuberculosis Division, Bellevue Hospital. The lecturers include Drs. Iago Galdston, George G. Ornstein, Foster Murray, Grant Thorburn, James A. Miller, Edward P. Eglee and Catherine R. Kelley. The lectures will be illustrated with clinical material.

OKLAHOMA

Use of Title "M.D." Constitutes Practice of Medicine.—In the case of *Reeves* v. *State*, the Oklahoma Criminal Court of Appeals recently upheld the constitutionality of the state medical practice act. John T. Reeves of Carter County had been found guilty by a lower court of practicing medicine without a license, in that he unlawfully appended to his name the titles "Dr.," "M.D.," "Specialist." Reeves contended that the medical practice act in its entirety was unconstitutional. The appellate court disposed of this contention with the statement that the power of the legislature to enact reasonable regulations for the protection of the public health was well settled, citing several Oklahoma cases in which the constitutionality of the act had been upheld. Another contention put forward in behalf of Reeves was that section 12 of the act was unconstitutional because it declared the use of the titles "Dr." and "M.D." to be evidence of practicing medicine without also requiring evidence that the alleged violator had attempted to treat disease. The court remarked in this connection that no case had been brought to its attention to uphold this contention; that the section referred to appeared to be an expression of the legislative intent to broaden the definition of the phrase "practice of medicine," and that the right of a state so to determine and define what constitutes the practice of medicine was well settled. So long as the statutory definition incorporates acts which in any substantial sense means the practice of medicine the statute will be upheld, the court stated. In the opinion of the court, assuming to practice by affixing or prefixing appellations to the name in a medical sense is sufficient to constitute the offense. Reeves filed a motion for a rehearing in the case.

PENNSYLVANIA

Personal.—Dr. Edward H. Rynearson, Mercy Hospital, Pittsburgh, was awarded first prize in the case report contest of the Allegheny County Medical Society; his subject was "Peritonitis and Acute Toxic Neuritis."——Dr. L. C. Owen lian, Ningpoo, China, died, January 16, at his home. Dr. Han took a year of postgraduate work at the University of Pennsylvania School of Medicine, and was an intern at White Haven for a year.

Tri-State Conference of Medical Officers.—The sixth tri-state conference of officers of the medical societies of the states of New York, New Jersey and Pennsylvania was held at Scranton, June 18. These meetings are designed to afford an opportunity to discuss problems of common interest to these states. The subjects discussed were (1) "Educating the Public in Medical Matters" and (2) "The State-Wide Antidiphtheria Campaign"; Dr. Frank C. Hammond, Philadelphia, presented the former and Dr. Joseph S. Lawrence, the latter. Many other officers of the societies took part in the discussion; the Medical Society of the State of Pennsylvania tendered the guests a luncheon.

Northwestern Pennsylvania Physicians' Outing.—About 125 physicians from six counties in northwestern Pennsylvania, accompanied by their families, met in Erie at a dinner, July 8, which is the annual occasion in that community when sociability is one of the most important parts of the program. The wives were entertained by a committee of ladies from the Erie County Medical Society. Dr. Allen A. Jones, University of Buffalo School of Medicine, gave a clinical review of several cases, and Dr. Arthur C. Morgan, Philadelphia, president-elect of the state medical society, discussed the previous address and spoke further on the subject of medical legislation. The officers of this society of northwestern Pennsylvania physicians for the ensuing year are Oliver H. Jackson, Meadville, president; Fred E. Ross, Erie, vice president, and Michael V. Ball, Warren, secretary.

Philadelphia

Society News.—The Philadelphia County Medical Society unveiled two tablets, June 8, each containing the names of 100 life members of the society. The address on this occasion was given by Dr. James M. Anders.——The Northern Medical Association of Philadelphia celebrated its eighty-first anniversary, May 16, on which occasion many prominent physicians of the city were guests of honor.

Professors of Obstetrics and Gynecology Appointed.—The trustees of the University of Pennsylvania have elected Dr. Charles C. Norris as professor of obstetrics and gynecology, and as director of the combined department. Dr. Norris graduated from the University of Pennsylvania School of Medicine in 1898, and for many years has been a teacher at the school. The trustees also elected Dr. Floyd E. Keene as William Goodell professor of gynecology, and Dr. Edmund B. Piper was appointed professor of obstetrics.

Hospital News.—Dr. Samuel J. Gittelson has been elected president of the medical board of Mount Sinai Hospital, and Dr. Henry B. Shmookler appointed medical director.——The American Stomach Hospital, 1809 Wallace, said to be the first in the country established exclusively for the study of diseases of the digestive tract, launched a drive, May 19, for $250,000 for new buildings and equipment.——Friends of the late Jules E. Mastbaum have raised $20,000 to endow a ward in Rush Hospital to be known as the "Jules E. Mastbaum Ward for Women."

Physicians' Wills.—The late Dr. John G. Clark, gynecologist at the University of Pennsylvania School of Medicine, provided in his will for a bequest of $50,000 to the gynecologic department of the university, and provided for the endowment of the department of gynecology at the university hospital. Dr. Clark further provided $5,000 for the medical school of the university to be known as the "Undergraduate Medical School Fund," $100 of the income to be devoted as an honorarium for an annual lecturer to address the undergraduate society and to be known as the "John G. Clark Lectureship." The late Dr. Edward E. Montgomery, professor of gynecology, Jefferson Medical College, provided in his will, among other things, that on the death of his wife, $5,000 should be paid to the aid association of the Philadelphia County Medical Society.

TEXAS

Personal.—Dr. Albert O. Singleton, professor of surgery, University of Texas School of Medicine, Galveston, has been elected by the board of regents to the chair of surgery which was formerly occupied by the late Dr. James E. Thompson.

Society News.—The North Texas Medical Association held its semiannual meeting at Paris, June 14-15, and will hold its next meeting in Fort Worth, December 6-7. Every one of the thirty-one physicians scheduled to present papers at the Paris meeting responded.——At the seventh annual meeting of the Texas Pediatric Society, El Paso, recently, Dr. Lucius D. Hill, Jr., San Antonio, was elected president, and Dr. Edwin G. Schwarz, Fort Worth, secretary-treasurer. ——Dr. Ralph H. Homan, El Paso, won the state medical association's golf tournament during the annual meeting at El Paso. Out of this tournament the Texas State Medical Golfers' Association was formed, and Dr. Bramwell F. Stevens was elected president.

Excerpts from Trustees' Report.—The State Medical Association of Texas will soon move its headquarters to new

offices in the Medical Arts Building in Fort Worth, where it has a ten year lease made through the cooperation of the Tarrant County Medical Society. New steel furniture has been purchased for the offices. Under the new arrangements the library will be made available to physicians throughout the state, an attainment which the board of trustees of the state association has striven for for several years. In its report to the house of delegates at the recent meeting in El Paso, it appears that the board spent $20,128.96 on the educational campaign during 1925-1926, and that $10,000 was set aside in the last budget for continuing this campaign. The board feels that the association should spend a considerable sum on securing the enforcement of the medical practice act. There is needed in Texas, it is said, a system of registration of practitioners of medicine; the board of medical examiners is without a paid executive and the only trace of practicing physicians is through the 250 counties of the state, with so many possibilities for evasion of the law as relates to registration that the effort to convict persons of practicing without sanction of the law is most difficult. It appears that there is little chance of the legislature appropriating funds for a paid secretary of the board of medical examiners and for an enforcement official in the field, and the trustees suggest that a small fee be charged physicians for registration, the money to be used to finance the board of medical examiners in its enforcement work. This would not involve any additional expense to physicians, provided the state medical association could be relieved of the $8,000 or $10,000 a year it is now spending for law enforcement and publicity.

VIRGINIA

Additional Gift to Medical College.—The president of the University of Virginia announced, June 13, that the General Education Board had given an additional gift of $156,000 to the medical school for the further development of surgery, internal medicine and public health and hygiene, to be available over a period of six years beginning next September. This sum is not included in the $800,000 gift by the General Education Board previously announced for the construction of new medical buildings. No new appointments to the faculty were announced at this time, but it is expected that teachers will be named this summer to succeed Dr. Stephen H. Watts, professor of surgery and gynecology, and Dr. Isaac A. Bigger, Jr., assistant professor of surgery, who have resigned.

Infant Mortality in White and Colored Races.—Commenting on the infant mortality figures for 1926, recently released by the U. S. Bureau of the Census, the Virginia State Board of Health says that when the rates are divided into white and colored for Richmond, the cause of the high rate is evident. The white infant mortality rate in Richmond, it appears, was only 76 per thousand births, while the colored rate was 164. Norfolk had a white infant mortality rate of 50.8 and a colored rate of 151.5, thus giving that city a standing of 90. The white rate in Petersburg was 102.3 and the colored rate, 182.5. The white infant mortality rate of Portsmouth was 60.4, and the colored rate 160, making the rate for the city 108.6. The city of Staunton, the most distinctly white city of the state, appears to be an exception in that the white infant death rate was reported as 136, and the colored rate 250. The comment is made that in this case the deaths are probably all reported while the births are not, and that the people of Staunton should see that the report of births is also complete so that it may not appear that "one of the choicest of our Virginia cities" is not such a questionable place in which to rear a family. Charlottesville had a white infant death rate of 51.9, and a colored rate of 76.9 lower than the state as a whole. The white state rate is 71.8, and the colored 110. Infant deaths may be reduced by prenatal care, and the state board of health furnishes a correspondence course which all prospective mothers may take.

WEST VIRGINIA

Society News.—Dr. Dean Lewis, Baltimore, addressed the Ohio County Medical Society, Wheeling, recently, on "Diagnois of Bone Lesions," illustrated with lantern slides.——Dr. John B. Deaver, Philadelphia, addressed the Ohio County Medical Society, Wheeling, May 27, at the annual banquet; Dr. John W. Gilmore was elected president of the society for the ensuing year, and Dr. John G. Thoner was elected secretary for the third consecutive time.——Dr. Chester R. Ogden, Clarksburg, president of the state medical society, addressed the Barbour-Randolph-Tucker County Medical Society, Philippi, May 26; Dr. Ernest R. McIntosh read a paper on "Mental Healing"; the advisability of changing the name of the society to the "Tygarts Valley Medical Society" was considered but no definite action taken.——The Kanawha County Medical Society held a symposium on cancer, May 3; the speakers were Drs. John E. Cannaday, Robert K. Buford, Rome H. Walker and William A. Thornhill; Dr. Ray M. Bobbit, Huntington, addressed the society, May 31, on "Urinary Calculi," and Dr. Earl Bennette Henson, Charleston, on "Bone Sarcoma."——Dr. and Mrs. Garnett P. Morison, Shepherdstown, entertained the Eastern Panhandle Medical Society, June 15; among others, Dr. Emmert C. Stuart, Winchester, Va., read a paper on "The Prostate from the General Practitioner's Viewpoint."

WYOMING

First State Tuberculosis Sanatorium Dedicated.—The pioneer tuberculosis sanatorium of Wyoming was opened to public service on National Hospital Day, May 12, with appropriate ceremonies conducted by state officials. The sanatorium is at Basin in the Big Horn Mountain country, and as yet comprises only one building of thirty beds which, it is expected, will be the nucleus of larger development. Dr. Stephen O. Watkins, Basin, is the superintendent.

CANADA

School of Hygiene Opened.—The new building for the School of Hygiene of the University of Toronto was opened, June 9. The *Canadian Medical Association Journal* states that the building is a gift of the International Health Board of the Rockefeller Foundation, New York, and was built under the direction of the department of health of Ontario and the University of Toronto. It is one of three which have been established in North America by the Rockefeller Foundation, the others being at Harvard University and Johns Hopkins University. The building will accommodate the department of hygiene and preventive medicine, the department of public health nursing of the university and the Connaught Laboratories. Dr. John G. Fitzgerald, professor of hygiene, and director of the Connaught Laboratories, will be director of the new school of hygiene. At the opening ceremonies, Sir George Newman, chief medical officer, department of health for England and Wales, gave an address on "Medicine as a Science to be Learned in Laboratory and Field."

GENERAL

Fellowships Provided by Rockefeller Foundation.—During 1926, the Rockefeller Foundation provided either directly or through other agencies fellowships for 889 persons from forty-eight countries; of these, 386 fellows crossed national boundaries to pursue their studies. During 1926, the foundation contributed to the budget of the National Committee for Mental Hygiene, including funds for fellowships for the training of personnel, and made gifts also to the Canadian National Committee for Mental Hygiene which, among others, is granting fellowships to advanced students.

Hospitals Approved and Removed from List for Training Interns.—Since the list of hospitals approved for internships was published in THE JOURNAL, March 12, 1927, the Council on Medical Education and Hospitals has approved the following additional hospitals for the training of interns:

Roseland Community Hospital, Chicago.
U. S. Marine Hospital number 1, Baltimore. Affiliated with University Hospital for training in obstetrics and pediatrics.
Eitel Hospital, Minneapolis.
U. S. Marine Hospital number 21, Staten Island, N. Y. Affiliated with the Staten Island Hospital for training in obstetrics, gynecology and pediatrics.
Flower Hospital, Toledo, Ohio.
Montgomery Hospital, Norristown, Pa.
St. Michael's Hospital, Toronto, Ontario.

The following hospitals have been removed from the list:

Columbus Hospital, Chicago, for failure to meet certain requirements regarding the training of interns.
Easton Hospital, Easton, Pa., for lack of balanced experience and training for interns, its work being mainly surgical.

The statement concerning the hospitals removed from the list does not imply a lack of competence in the care of their patients, and the lack of approval should not apply to interns secured prior to the publication of this notice.

Report of Board on Typhoid in Montreal.—The board of officers of the U. S. Public Health Service appointed to investigate, with the permission of the Canadian health officials, the Montreal typhoid epidemic has made a report to Surg. Gen. Hugh S. Cumming. The survey, which began June 18, and terminated June 29, included an examination of the typhoid records of the city and other parts of the province of Quebec; survey of the city water and sewage sources; an inspection of the milk plants and dairy farms in the surrounding country; a collection by personal interview of detailed histories of 203 cases, and a consideration of the adequacy of the local health force to cope with the situation. According to official records, there were reported between March 1 and June 28, 1927, 4,755 cases of typhoid in the city of Montreal with 453 deaths, as against thirty-seven cases and eleven deaths from March 1 to June 30, 1926. No evidence was obtained by the board to suggest that the water supply or sewerage system operated in the spread of the epidemic. The official records show that soon after the outbreak a large proportion of the patients gave a history of drinking milk from the plant of the Montreal Dairy Company, Ltd.; there was no evidence found of any significant disproportion of cases among habitual users of milk from the other dairy plants. About 32 per cent of the cases were reported among children under 10 years of age. It was concluded that the vast bulk of the infection causing the epidemic of typhoid was disseminated in the milk distributed by the Montreal Dairy Company, although exactly how the infection was introduced into this local supply has not been determined. The report of the board indicates that the cause of the epidemic began operating about February 15, reached its maximum about March 5, continued high until March 18 and then declined rapidly; in fact, it is probable that there was a complete cessation of the main current of infection from March 27 to April 20, when there was another sharp rise in the rate of causation, which began a rapid decline about May 6. The cases reported with onsets subsequent to May 25 have been in decreasing proportion among persons exposed to the milk of the Montreal Dairy Company and in increasing proportion among persons exposed to previous cases.

In the farming communities from which milk was obtained by the Montreal Dairy Company, surface streams were commonly used as sources of water for the milk houses and for the disposal of sewage from homes upstream. In conveying the milk from the farms to the city plant, there was a possibility of introducing typhoid infection at the receiving stations, at one of which the water used mainly for washing the cooling vats and other equipment was pumped from a river. It appears from the charts at the city plant that such milk as was run through the pasteurizer was, with occasional minor exceptions, heated sufficiently to kill all typhoid bacilli. The question is, the board states, where and how the infection could have been introduced in sufficient volume to account for the epidemic. The general epidemiologic evidence supports the view that the main current of infection was probably in the raw milk as it entered the plant and that through advertence or inadvertence on the part of workers in the plant, a considerable proportion of the raw milk was distributed from the plant without sufficient pasteurization, or even a run through the pasteurizer during the periods from February 15 to March 27, and from April 20 to May 15. It is true that in a foreman of the plant of the Montreal Dairy Company, a positive Widal blood reaction was obtained, April 6; the urine was found repeatedly negative and the feces were positive in four out of nine examinations. He had worked for about seven years at the creamery of the company before going to work at the milk plant, February 5, which date synchronizes with the beginning of the causation of the epidemic. It was difficult for the board to conceive why, if he started the current of infection, he ceased to infect the milk during the period from about March 6 to the date on which he was removed from the plant, April 16, and it appears unreasonable to suspect that he was a causative factor in the recrudescence of the epidemic.

The board believes that the city health officer recognized his responsibility and did his best to render efficient service under most difficult circumstances. That he should be given adequate efficient personnel at once to cope with the present situation is considered of critical importance to the city. The number of new cases of typhoid reported for the ten days ending June 28 averaged more than ten a day. The report states that Montreal is not yet a comparatively safe city for visitors who are likely to be susceptible to typhoid infection. The board acknowledges the many courtesies and the assistance received from the health agencies of the dominion, the province and the city, as well as from other agencies and many individual citizens.

FOREIGN

Postgraduate Course in Balneology.—The ninth Karlsbad international postgraduate course in balneology and balneotherapy will be held, September 18-24. The course is open to all medical practitioners, for whom full opportunities for studying the local therapeutic institutions will be provided. In connection with the course a Czechoslovakian visa will be supplied without charge and a 33 per cent reduction allowed on the state railways. Further information may be obtained from the secretary, Dr. Edgar Ganz, Karlsbad.

American Fellowships for Honor Graduates.—Twenty-three honor graduates of British universities were awarded fellowships by the Commonwealth Fund, New York, it was announced May 20, and they will come to the United States next fall for two years' study at various universities. The fellowships amount to $125,000, and this is the third annual group of such awards, twenty being provided annually under the original plan. This year, three new fellowships for honor graduates of British colonial universities were added. The awards were made by a committee of educators, and 121 applications were received. The study is not to be limited to any particular field; fellows are required to travel widely in the United States, attending meetings of learned societies, and thus come in contact with eminent men in their field. Among others, James M. Alston, from the University of Edinburgh, will come to Harvard University, Boston, and Thomas F. Hewer, from the University of Bristol, to Johns Hopkins University to study bacteriology.

Honorary Degrees and Society News.—The University of Edinburgh will confer the honorary degree of LL.D. on the occasion of the annual meeting of the British Medical Association in July on Dr. William S. Thayer, Baltimore, President-Elect of the American Medical Association; Dr. Harvey Cushing, Moseley professor of surgery, Medical School of Harvard University, Boston, and Dr. Charles L. Dana, professor of clinical medicine, Cornell University Medical College. Dr. Cushing delivered the annual oration before the Medical Society of London, June 13, on the surgical aspects of acromegaly.——The *Kenya Medical Journal* has been formally recognized by the Ranganyika Branch of the British Medical Association, and has changed its name to the *Kenya and East African Medical Journal*.——The subject for the Jacksonian prize of the Royal College of Surgeons of England for 1927 is "The Pathology, Diagnosis and Treatment of Bronchiectasis and Abscess of the Lung," and the competing essays must reach the secretary not later than December 31. The subject for 1928 is "The Surgical Treatment of Pulmonary Tuberculosis."——Lord Riddell was host to the Medical Golf Society of London during the annual meeting, June 16, at Walton Heath; there were more than 100 entries and about eight prizes were awarded.

Disciplinary Action by British Council.—At the May 24 meeting of the General Medical Council of the British Medical Association in London, a number of disciplinary cases were considered. No name was erased from the register for misconduct, the *British Medical Journal* notes, but in six cases judgment was postponed until a later session of the council. These cases included one concerned with advertising, one with lax certification, three with convictions for drunkenness, and three in which practitioners in Scotland had been keeping a "medical hall" where scheduled poisons had been sold to the public by an assistant not legally qualified, who, it was alleged, had been acting under cover of the physician. The case of advertising concerned a member in India registered in the army medical service. He had practiced for a long time in India and, it appears, had an honorable career. Newspaper notices promoting his qualifications were inserted more or less by acquaintances in a friendly fashion following his return to India from England. He had attempted to determine through the local medical council in India whether ethical medical regulations had been contravened. The General Medical Council took a serious view of the offense, as was proved at the hearing, and postponed judgment until May, 1928.

Deaths in Other Countries

A. H. Freeland Barbour, formerly president of the Royal College of Physicians of Edinburgh, author of books on gynecologic subjects, June 11.——**Frederick Lange,** Berlin, Germany, formerly a practitioner in New York, and founder of the Lexington Hospital, recently, aged 77.

Foreign Letters

LONDON

(From Our Regular Correspondent)

June 25, 1927.

The Royal Society Exhibition

At a conversazione given by the Royal Society, many exhibits of medical interest were shown. Mr. A. A. King showed the application of ultraviolet radiation from a mercury vapor lamp to the detection and estimation of minute quantities of arsenic. When a mercury-arsenic stain on a piece of filter paper sensitized with mercuric chloride is examined by means of ultraviolet rays the unchanged mercuric chloride fluoresces blue, while the mercury-arsenic stains stand out as a black disk. Arsenic stains, which are quite invisible in ordinary light, may be revealed in this way, and it is said to be possible to detect and estimate quantitatively amounts of arsenic as small as 0.00001 mg. Impurity in distilled water is also revealed by fluorescence in ultraviolet rays, and it has not yet been found possible, even with the most refined methods of distillation, to prepare water that does not show some signs of fluorescence. An exhibit from the National Physical Laboratory also illustrated the difficulty of preparing substances in a state of absolute purity. It included specimens of iron, manganese and chromium, the impurities in which are detectable only with the spectroscope. Bolometers responding with remarkable rapidity to radiant heat were shown by Mr. H. Dewhurst; they consist of a narrow strip of bismuth, believed to be only 0.0000007 cm. thick, deposited on thin celluloid films by electrical evaporation.

The Influenza Epidemic

The part played by influenza as an indirect cause of mortality may be seen from the fact that during the first quarter of the present year, when this malady was epidemic, the number of deaths in England and Wales exceeded the number of births by 1,644. In the first quarter of 1924, 1925 and 1926, when influenza was not epidemic, the increase of births over deaths numbered, respectively, 25,115, 37,224 and 43,477. The birth rate has now fallen so low that any serious outbreak of influenza is likely to reduce the population, not only relatively but absolutely. The epidemic of the present year began apparently in London, where the highest point was reached in the last week in January. The south of England followed quickly. The highest point of the epidemic was not reached in the midland till the third week of February; the north of England, which was severely attacked, had its highest point at the end of February. The influenza epidemic killed, in its short duration, 17,931 persons in England and Wales, the largest number of deaths from influenza in any first quarter since 1919, when the terrible pandemic occurred. The birth rate in the first quarter was 17.3 per thousand, the lowest ever recorded except that of 1919. The death rate was 17.5 per thousand.

Sleep and the Aged

The view that questions of diet and sleep are largely a personal matter, and that some people are able to attain a lusty old age while defying many of the accepted laws of health, was expounded with many examples within his own experience, by Sir Thomas Oliver, professor of medicine, University of Durham, in his presidential address to the Institute of Hygiene on the "Hygiene of the Later Period of Life." To loss of sleep were attributed some of the alterations which tend to anticipate old age. But the personal element came in, and once when visiting a well known peer, who was then far advanced in the nineties and who died two years short of his century, Sir Thomas was asked by him, as he was a victim of insomnia, how many hours' sleep a man should have. He replied six, but qualified that statement by the remark that many men went through life, discharging its duties satisfactorily, with only four. The peer replied, "You are quite right, for I have seldom had more than four hours' sleep in the twenty-four during the past fifty years." A few years ago Sir Thomas visited Edison in his works in New Jersey and learned from him that during the previous week he had sleep twenty-two and a half hours, less than the daily minimum of four hours to which he had referred, yet Mr. Edison's powers were as good as ever. He was actively engaged in research, and was conducting the affairs of a large laboratory. Two and a half years ago he again visited Mr. Edison, who resumed the conversation interrupted a few years previously, thus indicating that even prolonged loss of sleep had neither weakened his memory nor diminished his mental activity.

Kala-Azar

The annual report of the School of Tropical Medicine devotes attention to the researches regarding the spread of kala-azar, "the one remaining unsolved problem of transmission of a great tropical disease." Kala-azar is a remittent fever of the malarial type, characterized by anemia and enlargement of the spleen and liver. It is certain that the silver-footed sandfly can carry this disease, but the special conditions under which it is capable of infecting man have not yet been discovered. The report maintains that the evidence as to the carrier is strong enough to encourage the hope that the elimination of the sandfly means the elimination of kala-azar.

The Drugging of Panel Patients

The wasteful consumption of drugs by panel patients, owing to the complacency of physicians, has been pointed out heretofore. A number in Scotland are certainly getting their "money's worth." One man to date has been prescribed 8,800 pills, and there is no indication of his giving up the treatment. Another has received about 2½ hundredweight of ointment, while a third has been medically advised to drink 55 gallons of distilled water. These facts were revealed in the records of the Scottish Central Checking Bureau for the National Health Insurance services.

Roentgen-Ray Victim: Carnegie Hero Fund Grant

Dr. G. C. W. Williams, who did valuable roentgen-ray work from 1895 until last year, and served in the army through the war, has been made an allowance of $600 a year by the trustees of the Carnegie Hero Fund. He contracted dermatitis as a result of his work, and after eight operations, which included amputation of his right hand and loss of two fingers of his left, he was obliged to give up all hope of a cure, and one by one his professional engagements had to be relinquished.

Safety First in Factories

The home secretary, who at the recent annual meeting of the Safety First Association foreshadowed the possibility of the compulsory provision of safety officers in the larger factories, has now issued to the employers' associations a letter stating that he had provisionally approved the issue of an order requiring the institution of special safety arrangements in the chief accident-producing industries. Progress in the development of safety first arrangements in factories he finds to be disappointingly slow. The total number of accidents reported shows no sign of substantial reduction, and while a certain proportion were preventible by fencing and similar mechanical precautions which could be made the subject of specific regulation, the majority—perhaps in some cases as much as 60 per cent—were due to other causes. The

chief, if not the only, hope at present of effecting any substantial reduction in the total number of accidents seemed therefore to lie in a much closer and more comprehensive measure of supervision being exercised at the individual factories, which could be secured only through establishing at the works special safety organizations which would insure that the circumstances and causes of all the accidents occurring were closely investigated and the best methods of carrying on work with safety carefully studied; that the workers were instructed in the risks and imbued with safety first principles, and generally that all practicable means were taken for the promotion of safety methods. Before proceeding, however, to make the order, the home secretary desired to give employers' associations the opportunity to submit observations on the proposals, with a view to ascertaining whether the employers in any of the industries affected would not voluntarily take the necessary steps at their works. If he were assured that the employers in any of the industries concerned were ready to adopt effective safety schemes on the lines indicated in the order (or on such other lines as may be approved) and that effective steps would be taken without delay to institute such arrangements, he would be quite willing, so far as that industry was concerned, to postpone the issue of the order so as to give the employers the opportunity of dealing with the matter on a voluntary basis. It is proposed to require employment of a competent safety supervisor. The order, however, is elastic, and every occupier would have the opportunity of substituting, with the chief inspector's approval, a special safety scheme adapted to the particular circumstances of his works. He would also be able to claim exemption altogether from the order if he could satisfy the chief inspector that other not less effective measures for the prevention of accidents had been adopted. It is proposed that the order shall apply to (1) blast furnaces for the smelting of iron ore; (2) iron and steel rolling mills, including tube works; (3) engineering works in which more than 500 persons are employed, as follows: forges, engine building, making of transmission machinery, constructional engineering, hydraulic engineering, electrical engineering (making of dynamos and motors, and cable making), making of agricultural and industrial machinery, making of railway, street car and motor vehicle plant, ordnance works; (4) iron foundries in which more than fifty persons are employed; (5) shipbuilding works.

Registration of Nursing Homes

In the house of commons the second reading of the nursing homes (registration) bill was carried. Its principle has already been approved by a select committee of the house, which found that the premises of many nursing homes were structurally defective and unsuitable for the purpose to which they were devoted; the committee recognized the urgent need for registration and supervision, particularly in regard to homes which catered to poor people and senile chronic cases; and it considered that, in many nursing homes, the accommodation for the nursing staff was seriously defective. The committee recommended that the administration of registration should be carried out by the local authorities under the supervision of the ministry of health. The bill gives effect to these recommendations. It proposes that the local authority should have power to refuse registration on the ground that the applicant is not a fit person or that the premises were unsuitable. The person in charge and a proportion of the staff will have to be qualified nurses, but in the case of homes which existed at the time the bill took effect, it would not be a bar to registration if the person in charge was unqualified so long as the person who superintended the actual nursing of the patients was a qualified nurse.

PARIS

(From Our Regular Correspondent)

June 8, 1927.

The Water Supply of Paris

The problem of securing an adequate supply of drinking water for Paris is difficult, particularly for the suburbs, in which the population is increasing rapidly. Furthermore, the suburbs waste water in caring for their lawns and gardens. The projects being considered at present concern the harnessing of distant springs (for example, those of the Loir) and the use of water from the Seine, sterilized in special reservoirs, either by the admixture of sodium hypochlorite or by ozonization. The first plan will be rejected no doubt as being too expensive and because the inhabitants of the region of the Loir refuse to be deprived of their water. Also in case of war, destruction of aqueducts by the enemy or even poisoning of the water is possible. The second project is more economical. Many Parisians are, however, opposed to the use of water from the Seine on the ground that it has not an agreeable taste and would not be cool in summer. A third plan calls for a reservoir with an area of 2,844 hectares to be constructed in the department of the Aube. It would flood a whole valley. The method has been employed with success in the Pyrenees, but those mountain valleys were sparsely populated and the land had no practical value; furthermore, the quality of the water was of little importance. The reservoir in the Aube would destroy many acres of fertile fields, would constantly threaten with inundation the city of Troyes in case of a break in the retaining walls, and would supply a water the quality of which would not be superior to that of the Seine.

The Tragic Death of Prof. Robert Picqué

Dr. Robert Picqué, formerly a member of the army medical corps and likewise formerly agrégé professor in the Ecole supérieure du service de santé militaire, recently appointed professor of clinical surgery at the Faculté de médecine de Bordeaux, has just been killed. For several years, Picqué had devoted himself to furthering the transportation by airplane of injured persons. During the World War, he had promoted the establishment of surgical stations in dugouts close to the front-line trenches and under the fire of the enemy. Later, he organized medical service aviation during the campaigns in Morocco and Syria. The accident which caused his death occurred when he was informed of the serious condition of the wife of an officer in the aviation camp at Cazaux (Gironde). He went to her assistance in an airplane, accompanied by another plane for the transportation of the patient. On the return in squadron formation to Bordeaux, Professor Picqué's plane caught fire. Picqué, embarrassed by the smoke, left his seat and tried to make his way to the front of the cockpit where sat the pilot, who was making as rapid a descent as possible. But he must have made a false step, for he lost his balance and fell out of the plane, while the pilot made a safe landing and succeeded in escaping the peril of the flames. Professor Picqué was killed instantly. He was only 50 years of age.

Sunday Closing of Pharmacies

The unpopular ordinance requiring the closing of most pharmacies in Paris on Sundays gives rise to many comic and tragic incidents. Recently, a policeman who had, following instructions, compelled a pharmacy to close on a Sunday, came back, a few hours later, to seek the pharmacist's aid, as he had been injured in an accident and could not find a cab to take him to the hospital. The pharmacist was kind enough to comply with his request. At another pharmacy, which was closed in accordance with the ordinance, policemen endeavored to secure aid for a woman who had been

injured on the streets, but the pharmacist refused to open his shop. However, in spite of the complaints of the public and the noisy demands of a few pharmacists, the majority of the pharmacists favor the continuance of the ordinance, whether from personal choice or (which is more likely) as the result of the pressure brought to bear by the union of pharmacy employees, who threaten to strike if the ordinance is repealed.

Opening of the First Hospital for the Insane in Algeria

A hospital for the insane has recently been officially dedicated at Blida, Algeria. It is the first hospital of the kind to be established in Algeria. The Mohammedans regard insane persons as inspired by Allah and treat them with veneration, giving them assistance whenever they encounter them. Such kind treatment and the absence of insanity resulting from alcoholism will explain why cases in which internment is necessary have been rare. But alcoholism is beginning to develop among workmen in the seaports and employees in factories, and hospitals for the insane are now needed. It is planned to erect further hospitals for the insane as soon as possible.

Social Insurance

The senate began this week the debate on the bill pertaining to social insurance. The bill was adopted in 1924 by the chamber of deputies without prolonged discussion. Since that time, the medical profession has expressed anxiety concerning the consequences that may result from the adoption of the bill. The government has postponed the consideration of the bill by the senate in view of these criticisms and because of the impossibility of making provisions for the new items with which the budget would be loaded. Also, the cost of living would increase because merchants and industrialists would add to the selling prices of their products a sufficient amount to cover the increased charges imposed on them by the new law. The debates in the senate are being followed with the greatest interest by all physicians.

The Use by a Surgeon of His Own Blood in Performing a Transfusion

Dr. Hertz, chief surgeon at the Rothschild Hospital, found one night that a preoperative transfusion of blood was indispensable in a case of ruptured extra-uterine pregnancy. He found that no one present had blood that was compatible with the blood of the patient. Only the blood of the surgeon was acceptable. Dr. Hertz supplied the patient with his own blood for the transfusion, after which he operated on the patient and succeeded in saving her.

The Nineteenth French Congress of Medicine

The nineteenth French Congress of Medicine, which will be held in Paris, October 11-14, under the chairmanship of Professor Teisier, has announced its program, which will consist of three topics as follows: (1) semeiology of medical septicemias, with papers by P. Gastinel and J. Reilly (of Paris) on general semeiology of the septicemic condition, M. de Vezeaux de Lavergne of Nancy on clinical forms of specific acute and chronic septicemia from a known or unknown virus, and by F. Arloing, P. Dufourt of Lyons and L. Langeron of Lille on clinical forms of nonspecific chronic or acute septicemia; (2) the pathologic physiology of edemas, with papers by E. Aubel and P. Mauriac of Bordeaux on the rôle of certain ions and on the variations in their distribution in the pathogenesis of edemas, P. Govaerts of Brussels on the rôle of the physicochemical properties of proteins in the pathogenesis of edemas, with researches on the variations of the osmotic and capillary pressure, and Pasteur-Vallery-Radot and P. Nicaud of Paris on edemas in chronic interstitial nephritis, and (3) the medical indications and the comparative therapeutic value of splenectomy, with papers by N. Fiessinger and P. L. Brodin of Paris on splenectomy in hemolytic processes, A. Nanta of Algiers and J. Tapie of Toulouse on splenectomy in anemic processes, A. Nanta on anemia of parasitic or infectious origin, and J. Tapie on pernicious and leukemic anemia. In order to give to the main topics as much time as possible, the program committee has decided not to accept any communication that does not bear directly on the main topics. In connection with the holding of the congress, the centenary of Villemin and his discovery of the value of inoculation in tuberculosis will be celebrated.

ITALY

(From Our Regular Correspondent)

April 15, 1927.

Experiments with Bread Containing Soy Bean Flour

At the order of the minister of war, a commission composed of physicians and chemists attached to the army service and presided over by Professor Memmo, member of the army medical corps, with the rank of general, has completed alimentation tests with bread containing 10 per cent soy bean flour. The experimental subjects were army officials (physicians and pharmacists) and soldiers of the regular army, who volunteered their services. The specimens of flour used for the test were furnished gratuitously by two Italian wholesale houses, and had been milled by different processes. The tests were conducted over a period of several weeks, and the commission recently presented to the minister of war its conclusions, which were most favorable to the adoption by the army of bread containing a percentage of soy bean flour.

Provisions for the Benefit of Pregnant Prisoners

In a recent circular addressed to the procurators of the appellate courts, the minister of justice, Professor Rocco, calls attention to the fact that often pregnant women are interned in penal institutions and give birth to children under very unfavorable surroundings. With a view to protecting the rights of motherhood and childhood, the minister decrees that, in case a pregnant woman, or a woman who has given birth to a child within three months, receives a jail or a prison sentence, execution of the sentence shall be suspended. Similar provisions are contained in the Italian Codex under the head of penal procedure, but, up to the present time, have not been applied to as wide an extent as the minister desires.

The Marchiafava Foundation

The prize of the Marchiafava Foundation for the best work on pathologic anatomy and experimental pathology (8,000 liras, or $368) has been awarded to Professor Soli, occupant of the chair of pathologic anatomy in the University of Palermo, for his researches on experimental arteriosclerosis from *Spiroptera sanguinolenta*, and to Professor Brancati, of the Clinica Chirurgica in Rome, for his investigations on internal experimental tar cancer.

Report on Sanitary Conditions in Italy

The public health service, which is under the ministry of the interior, has recently published a report on the sanitary condition of the country from July 1, 1925, to June 30, 1926, from which it appears that public health conditions remained normal during the period covered by the report. The general mortality rate was 16.58 per thousand of population, as compared with 16.61 for the preceding twelve months. The birth rate was 27.46 per thousand of population, which constituted a decline over the birth rate for 1924 (30 per thousand). The percentage of children to the total population is in Italy very high—higher than in most other countries. Especially noteworthy is the decrease in the number of deaths among children under 1 year of age. Exotic diseases did not present any conspicuous manifestations. Of the exanthematous diseases, there was evidence of a still further decrease in scarlet fever,

while measles showed an increase. The manifestations of smallpox were few and very light. The public health service gives careful attention to the prophylaxis of smallpox, and is organizing more and more effectively the vaccination service. With regard to tuberculosis, while the mortality figures as a whole, taking into consideration all the various forms of the disease, have gradually dropped to about the prewar status, the mortality for the pulmonary forms remains high. More intensive prophylaxis is therefore needed, either through the mediation of the provincial antituberculosis societies, or through the activities of the institutions for the assistance of weak and predisposed children. Malaria continues to decrease. In the anticancer crusade, the public health service has made its contribution through the creation of the physical laboratory and the radiologic bureau, the purpose of which is to deal with all subjects pertaining to physics and radiotherapy. It has likewise established at Rome a special hospital (S. Gallicano) to serve as a study center for the practical application of physical therapy to tumors, and has placed in the budget an annual appropriation of two million liras ($92,000) for the prosecution of studies on cancer. During the fiscal year 1925-1926, the number of free antitrachoma dispensaries was increased from 156 to 196. A special inquiry has been begun to determine the present incidence of trachoma. Pellagra has almost completely disappeared from Italy. For the completion of sanitary undertakings there were authorized in 1925-1926 accommodation loans totaling 162,000,000 liras ($7,452,000), 140,000,000 ($6,440,000) of which was used for the construction of water works, and 22,000,000 ($1,012,000) for sewerage systems, cemeteries and the like.

The "Policlinical Hour" as Established in Padua

The Poliambulanza Medico-chirurgica of Padua, at the suggestion of Prof. Gaetano Boschi, has introduced recently an innovation among the medical assistants of the ambulatorium by establishing the so-called policlinical hour, in accordance with which fourteen medical specialists connected with the institute meet every week, at a given time and place, to determine what cases, though belonging apparently to a single specialty, present in reality syndromes of a complex nature that demand the intervention of various specialists. Thus, an attending physician, confronted with a difficult case, can take his patient for a consultation at the meeting of the group of specialists.

Convention of the League for Combating Cancer

The Lega italiana per la lotta contro il cancro, of which Professor Lustig is the chairman, has called a meeting in Milan of all those who are actively interested in the crusade against malignant tumors. Not only physicians but also administrators of hospitals, directors of charitable societies, students of social questions, and the like, are invited to attend the convention. The objects of the meeting are to make known what the league has done and what it is planning to do in the way of defense against cancer; to solve certain practical problems, and to afford an opportunity for an exchange of ideas and of programs on the part of the persons attending.

Government Aid in the Crusade Against Tuberculosis and Cancer

The minister of the interior has decided to make each year special grants for the promotion of work in tuberculosis and cancer, from the standpoint of personal aid, scientific research and the application of prophylaxis. Studies may be carried on in Italy or in some institute in a foreign country, which the applicant must name when applying for the grant. Applications will be considered from physicians who are connected with related institutions or who give evidence of possessing special preparation in either one of the fields indicated. The amount of the grant and the period of study required will be fixed, from time to time, by the minister of the interior.

New Legislation in Regard to the Sale of Alcoholic Beverages

The new public safety law contains several provisions which establish, among other things, that the manufacture and deposition of insalubrious and dangerous material may take place solely in prescribed localities and in accordance with fixed regulations; in addition, that the sale of alcoholic beverages, though made in hotels, restaurants or private circles, must always be authorized by a special license to be issued by the public safety authorities, and if the percentage of alcohol in a beverage exceeds 21 per cent, a selling permit must be secured from the prefect. The ambulant sale of alcoholic beverages of whatever percentage is prohibited, and the sale of such beverages to minors under 16 years of age is forbidden. The sale of beverages with an alcohol content in excess of 21 per cent is absolutely prohibited on holidays. The manufacture, possession or sale of absinth is likewise prohibited.

NETHERLANDS

(From Our Regular Correspondent)

May 15, 1927.

Medical Examination as to Aptitude for Sports

A medical bureau the object of which is to offer an opportunity for medical examination as to aptitude for participation in various sports has been established at The Hague. Professor Sleeswijck, in his dedicatory address, outlined the purposes of the bureau, which are to avoid the ill effects of sports, supervise training and control the effects of sports on the organism. The executive committee comprises a representative of the medical society for physical education, a medical practitioner of The Hague, a school physician, and a representative of the athletic societies. A similar undertaking has been announced in Amsterdam.

Dental Service in the Schools

Following the example of other cities, Rotterdam is planning to organize a dental service in the schools, which will not only comprise an inspection service but also provide gratuitous treatment for children who obtain the consent of their parents. It is estimated that the annual expense involved will amount to about thirty cents per pupil.

International Congress of the History of Medicine

The sixth International Congress of the History of Medicine will be held at the University of Leiden (Leiden) and at Amsterdam, July 18-23. In Amsterdam there will be organized for the occasion an important exposition of paintings and books pertaining to anatomy and the art of healing.

Milk Hygiene

A society has been created in Amsterdam the object of which is to improve conditions surrounding the production, shipment and sale of milk in the region about Amsterdam. With this purpose in view, it proposes to organize a milk control center. It will endeavor to regulate the question of selling price, and will seek to develop the milk-producing organizations and to insist on the value of a good water supply for milk producers. It will also establish a supervision of stables in order to discover diseased animals and will organize an instruction center for the dissemination of knowledge concerning the establishment and management of stables.

Treatment of Leukemia

A philanthropist has established a prize of $50,000 (125,000 florins) for the best work on the treatment of leukemia. A committee composed of Professors Naegeli (Zurich), Van den Berg (Utrecht), and Snapper (Amsterdam) will judge the

value of works presented. Competitors must send in their works so as to reach Prof. Hymans Van den Berg, Medical Clinic, Utrecht, Netherlands, by March 1, 1928. The amount of the prize will be doubled in case a member of the family of the founder of the prize, at present stricken with myeloid leukemia, shall be cured by the therapeutic method described in the prize work.

A New Publication

The Netherlands Association for Combating Rheumatism, to the founding of which reference has been previously made, has issued the first number of the review *Rheumatiek*, which will be the organ of the new association.

Opportunities for Vacation Study of Medicine

The association of medical students and the faculty of medicine of Utrecht have taken action with a view to increasing the opportunities for practice work during the course of medical training. They have addressed a petition to the directors of the various civilian hospitals requesting that students of sufficiently advanced standing be permitted to assist in the hospital services of the various cities during the Christmas, the Easter and the summer vacations.

A Council on Medical Ethics

The lower house of parliament has begun discussion of a bill providing for the creation of a council on medical ethics to be established on a basis similar to that of the existing council on legal ethics. The scope of this medicojudicial organization is expressed in the first article of the bill, which states that any physician who becomes guilty of an act calculated to impair the general confidence inspired by the medical profession, who commits a tort bringing damage to a third party, or who gives evidence of marked incapacity, is subject to a special penalty distinct from any damages that may be recovered by process of law. The penalties thus imposable are: warning, censure, fine up to $800, deprival of the right to practice medicine for the period of one year, and cancelation of the right to practice.

Furthermore, the council would have the right to deprive of the privilege of practicing medicine physicians suffering from mental or organic diseases incompatible with the practice of the art. The council would be a body that would derive its authority from a central body having the powers of an appellate court. For the application of the three last mentioned penalties (imposition of fines and denial of the right to practice medicine), the civil court of jurisdiction must approve the sentence imposed by the council. The council would be composed of physicians and a jurist. During the course of discussion in the chamber, differences of opinion were expressed as to the rights, duties and privileges that should be accorded to the jurist as a member of the council—whether he should be the chairman or the secretary—and also as to need or feasibility of legislation of this character. Following the expression of the many divergent opinions, the chamber decided to withdraw the bill from discussion and to seek the opinion of the special commission. The Nederlandsche Maatschappij tot Bevordering der Geneeskunst had sent to the chamber a petition in which it urged that the president of the council be chosen from among the physicians and should not be a jurist.

Death of Prof. J. De Bruin

Professor De Bruin, one of the foremost pediatricians in the Netherlands, has just died. His principal works were studies on infantile scurvy and on cerebrospinal meningitis. He was one of the founders of the Netherlands Pediatric Society.

The International Congress of Anthropology

Next September will be held the triennial congress of the international institute of anthropology. The Netherlands national bureau of anthropology, of which Dr. Kleiweg de Zwaan is the president, is entrusted with the organization of the congress. At the same time, the international federation of eugenic organizations will convene in Amsterdam. The papers will be divided among the following sections: (1) physical anthropology, (2) ethnography and ethnology, (3) heredity and eugenics, (4) sociology and criminology, (5) the prehistoric period, and (6) folklore.

Dr. Charles Davenport, director of the Carnegie laboratory for experimental evolution and of the Eugenics Record Office at Cold Spring Harbor, will speak on the crossing of races.

BERLIN

(From Our Regular Correspondent)

June 11, 1927.

Meeting of the German Surgical Society

(Continuation)

Clairmont of Zurich discussed the question of to what extent the standpoint of the referring physician in an operation for acute appendicitis was to be considered. In 1,298 cases there were 280 (more than 20 per cent) wrong diagnoses. The speaker emphasized that the fact did not constitute a reproach to the practicing physician. It was eminently desirable that even the suspicious cases should be referred to the clinic or to the hospital as soon as possible. It was the duty of the clinic (if possible, in agreement with the physician) to decide on the indications for an operation. Similar views were expressed by König of Wurzburg, who called attention to a similar situation with regard to patients with gastric ulcer, referred to the clinic, in whom the indications for the operation can usually be decided on only after a clinical observation extending over a considerable period; by Anschütz of Kiel, who stressed the great responsibility of the practitioner in referring the cases, and the equal responsibility of the clinic in refusing to operate; by Meisel of Constance, who, to avoid errors in diagnosis, and especially the confusion of disorders of the lungs and the pleura, makes a roentgenologic examination in every case as a matter of routine, and by de Quervain of Bern, who emphasized that the physician referring the case must never be disavowed. Borchard of Charlottenburg called attention briefly to the possibility of confounding appendicitis and osteomyelitis of the inner table of the pelvis.

With reference to the abdominosacral operation in high placed rectal carcinomas, with preservation of the sphincter muscle, Borchers of Tübingen demonstrated the technic worked out by Perthes (now deceased), in which the advantages of the combined procedure were emphasized. The operation begins from below with exposure of the rectum; the patient is then made to assume the dorsal position; the abdomen is opened and the tumor is delivered by means of two traction bands. Resection follows after ample mobilization of the flexure.

The third main topic dealt with the present status of surgery of the joints, the principal speaker being Payr of Leipzig. In addition to the primary consequences of a joint injury there are secondary changes such as loss of cartilage, development of connective tissue to replace lost cartilage, adhesive union of the joint cleft, deformation of the ends of the joints, obstruction caused by osteophytes, and contraction of capsular ligaments. In animal experiments better results were secured in the presence of slight contamination than when the conditions were entirely aseptic, since chemical irritation plays a part in the regenerative process. Payr discussed the various aids in diagnosing joint injuries and joint disorders particularly roentgenologic procedures. In addition to roentgenograms taken from two different directions, diagonal exposures are often necessary. He mentioned also the determination of the presence of foreign bodies in the deeper tissues, loose bodies in joints, foci, stereoptic photographs, the

use of contrast mediums, auscultation and endoscopy, and emphasized the importance of blood tests, the determination of the hydrogen ion concentration, the significance of injections of tuberculin, and excision of the capsule. He referred to the importance of latent infection and to the research methods for discovering it. In connection with the indications for operative intervention, he emphasized the difference between a healthy joint with a local mechanical disturbance and a joint that has been seriously injured. Under some circumstances diagnostic explorations cannot be avoided. The age and the social status of the patient are factors to be considered. Before the operation, the whole operative plan must be thought out—whether the joint itself or other members of the kinetic group are to be attacked, and whether the measures to be resorted to shall be extra-articular or intra-articular, surgical or nonsurgical. Payr divides the cases into three fundamental types: (1) restoration of form and function; (2) sacrifice of a diseased joint, and (3) contemplated destruction of an anatomically sound but useless joint. Payr discussed then the general technic of joint operations: narcosis by inhalation anesthesia or by conduction anesthesia, importance of asepsis and hemostasis, avoidance of the introduction of foreign bodies of any considerable size, the use of living tissue as far as possible for the restoration of lost tissue, the skin incisions, and methods of opening (conservative attitude toward muscles and nerves; likewise avoidance of injuries to cartilage and articular ligaments). Especially important is the after-treatment: early movement in the case of joint fractures; every forced movement is a grave mistake but active and passive movements, to be executed by the patient, after the wound has healed, from the tenth day on are beneficial. Subsequently, Payr discussed "closed" joint injuries and their sequels, fractures of the neck of the femur, luxations (operative intervention in habitual and irreducible luxations, extra-articular and intra-articular interventions, reparation, resection, plastic restoration), laceration of articular ligaments, internal injuries and pathologic conditions of the meniscus. He emphasized the importance of suturing the ligaments but recommended rather the removal than the suturing of the meniscus. He devoted a few words to chondropathies, partial necroses, movable bodies in joints (removal of the underlying stratum), chronic effusions, jerking and snapping joints, and amphiarthrosis and flail joints. Open joint injuries should be treated by excision of the infected foci and primary suturing (600 primary cures in 962 cases). He then took up joint disorders of infectious and noninfectious origin (constriction hyperemia, puncture, surgical intervention, phenolized camphor, plastic treatment), osteochondrotrophopathies (malacias), deformities of the joints, ankylosis (caution in the presence of tuberculosis; often more difficult to make a joint sufficiently rigid than it is to mobilize it), tumors and congenital malformations.

Marriages

JOSEPH H. GREENBERG, Toronto, Ont., Canada, to Miss Matilda Friedlander of Brooklyn, June 14.

LAWRENCE A. DONDANVILLE, Moline, Ill., to Miss Eva Catherine Ender of Deerfield, June 15.

CYRIL VINCENT LUNDVICK, Tacoma, Wash., to Miss Kathleen Parshall of Seattle, June 11.

CHESTER ALPHONSUS REGAN to Miss Helen Bell Winklesky, both of Seattle, June 15.

ARTHUR M. KRAUT to Miss Ophelia Hass, both of Jersey City, N. J., June 8.

BENJAMIN FOSSE to Miss May Lear, both of Beloit, Wis., June 21.

Deaths

Charles Franklin Hoover ✠ Cleveland; Harvard University Medical School, Boston, 1892; past president of the Association of American Physicians, and the Cleveland Academy of Medicine, chairman of the Section on Practice of Medicine of the American Medical Association, 1907-1908, and member of the American Society for Clinical Investigation; assistant in medicine, 1894-1895, instructor in physical diagnosis and director of clinics, 1895-1896, professor of physical diagnosis, 1896-1909, and since 1909 professor of medicine, Western Reserve University School of Medicine; served in France during the World War:; visiting physician to the Cleveland City Hospital, 1894-1907, and chief of the medical staff of the Lakeside Hospital, where he died, June 15, following a long illness, aged 61.

Henry Alphonsus Callahan ✠ Captain, M. C., U. S. Army, Washington, D. C.; Harvard University Medical School, Boston, 1906; member of the Medical Association of the Isthmian Canal Zone; served during the World War and in 1920 was appointed a captain in the regular army medical corps; aged 47; died, March 20, at Fort Totten, N. Y., of cerebrospinal meningitis.

Frank Tyler Fraser Stephenson ✠ Detroit; Detroit College of Medicine and Surgery, 1901; member of the American College of Physicians; lecturer on organic and inorganic chemistry at his alma mater; served during the World War; on the staff of the Providence Hospital; where he died, May 14, following an operation for appendicitis, aged 52.

James Samuel Goetz ✠ Omaha; Miami Medical College, Cincinnati, 1900; assistant professor of medicine and chairman of the department of therapeutics, University of Nebraska College of Medicine; on the staffs of the Immanuel and Wise Memorial hospitals; aged 48; died suddenly, June 7, of myocarditis and acute nephritis.

Leonard Huntress, Lowell, Mass.; Medical Department of Columbia College, New York, 1874; member of the Massachusetts Medical Society; trustee of the State Almshouse and Farm for twenty-five years; member of the school board and chairman of the board of health for several years; aged 78; died, June 3, of heart disease.

John Roseman Marshall ✠ Sheffield, Ill.; Rush Medical College, Chicago, 1896; formerly member of the school board and board of health; on the staff of the Julia Rackley Perry Memorial Hospital, Princeton, Ill.; aged 55; died, June 23, at the Presbyterian Hospital, Chicago, of cysto-ureteritis, pyelonephritis and pyemia.

Edwin F. Kamerly, Jr. ✠ Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1891; on the staff of the Frankford Hospital, and formerly on the staff of the Medico-Chirurgical, and Philadelphia General hospitals; aged 58; died, June 21, at the Samaritan Hospital, following a colostomy.

Herbert George Rockwell, Amherst, Mass.; University of Vermont College of Medicine, Burlington, 1896; member of the Massachusetts Medical Society; on the staff of the Pratt Health Cottage of Amherst College; served during the World War; aged 55; died suddenly, June 25, of cardiac embolism.

Lewis Allen Griffith, Upper Marlboro, Md.; College of Physicians and Surgeons, Baltimore, 1879; member of the Medical and Chirurgical Faculty of Maryland; formerly member of the state board of medical examiners and board of health; aged 68; died, June 23, of heart disease.

Robert Quarles McClure, Texarkana, Texas; Medical Department of the Tulane University of Louisiana, New Orleans, 1901; member of the State Medical Association of Texas; aged 50; died, March 14, at the Michael Meagher Hospital, of pneumonia, following erysipelas.

William A. Sherman ✠ Newport, R. I.; Harvard University Medical School, Boston, 1902; member of the board of health; formerly member of the school board and city council; on the staff of the Newport Hospital; aged 49; died suddenly, June 18, of heart disease.

John W. Scott, St. Charles, Minn.; University of Wooster Medical Department, Cleveland, 1880; member of the Minnesota State Medical Association; formerly president of the school board and the Citizens State Bank; aged 76; died, May 16, of pernicious anemia.

Edmond De Witt Converse, Chicago; Chicago Medical College, 1874; Medical Department of Columbia College, New

York, 1875; member of the Illinois State Medical Society; aged 74; died, in June, of mitral stenosis, chronic myocarditis and chronic nephritis.

Albon Ellsworth Fichtner ✠ Johnstown, Pa.; University of Pittsburgh School of Medicine, 1907; served in France during the World War; medical director of a maternity hospital bearing his name; aged 43; died, June 21, of an accidental overdose of chloroform, self-administered.

Ferdinand G. Kneer ✠ New York; Medical Department of the University of the City of New York, 1887; formerly visiting surgeon to St. Catherine's Hospital, Brooklyn; aged 67; died, June 17, following an operation for acute intestinal obstruction.

John J. Wagner ✠ Brooklyn; Jefferson Medical College of Philadelphia, 1897; formerly on the staff of the Kings County Hospital; aged 59; died, June 11, at the Methodist Episcopal Hospital, of peritonitis, following an operation for appendicitis.

Dorris May Presson Kraus ✠ Needham, Mass.; Woman's Medical College of Pennsylvania, Philadelphia, 1911; member of the New England Society of Psychiatry and the American Psychiatric Association; aged 38; died, June 22, of carcinoma.

Albert Livingston Stage, Columbus, Ohio; Physio-Medical College of Indiana, Indianapolis, 1896; Ohio Medical University, Columbus, 1900; member of the Ohio State Medical Association; aged 56; died, May 7, of cerebral hemorrhage.

John W. Hays, Albion, Ind.; Medical College of Ohio, Cincinnati, 1872; member of the Indiana State Medical Association; Civil War veteran; past president of the Noble County Medical Society; aged 86; died, June 17, of senility.

Chisolm Tucker Rogers, Tulsa, Okla.; University of the South Medical Department, Sewanee, 1904; resident physician of the Oklahoma Indian Sanatorium, where he died, June 6, aged 51, of tuberculous peritonitis.

Aurelius Daniel Coleman, Mount Willing, Ala.; University of Alabama School of Medicine, Tuscaloosa, 1880; member of the Medical Association of the State of Alabama; aged 78; died, recently, of arteriosclerosis.

James B. Sharp, Union City, Tenn.; Vanderbilt University School of Medicine, Nashville, 1883; member of the Tennessee State Medical Association; aged 74; died, June 20, of myocarditis and angina pectoris.

Rollo Carlton Dugan ✠ Ottawa, Kan.; University of Minnesota Medical School, Minneapolis, 1890; on the staff of the Ottawa Community Hospital, where he died, June 10, of carcinoma of the larynx, aged 62.

Frances A. Adams, Syracuse, N. Y.; Syracuse University College of Medicine, 1885; on the staff of the Syracuse Memorial Hospital, where she died, June 8, aged 72, of toxic adenoma and myocarditis.

Burleson Staten, El Paso, Texas; University of the South Medical Department, Sewanee, 1903; member of the State Medical Association of Texas; aged 53; died, June 19, of carcinoma of the bladder.

Frederick Lyman McKee ✠ Hartford, Conn.; Columbia University College of Physicians and Surgeons, New York, 1899; aged 58; died, May 1, at the Hartford Hospital, of chronic nephritis.

Frank M. Rogers, Vergennes, Vt.; University of Vermont College of Medicine, Burlington, 1899; past president of the Addison County Medical Society; aged 51; died, April 5, of lobar pneumonia.

Jeremiah Hawley Leaming, Vienna, Ohio; Cleveland Homeopathic Medical College, 1898; member of the Ohio State Medical Association; aged 58; died, May 26, of cerebral hemorrhage.

Park Lewis McDonald ✠ Kansas City, Mo.; University Medical College of Kansas City, Mo., 1889; on the staffs of St. Mary's and St. Joseph's hospitals; aged 65; died, June 8, of heart disease.

David A. Patterson, Westfield, Pa.; Rush Medical College, Chicago, 1897; member of the Medical Society of the State of Pennsylvania; aged 59; died, April 6, of chronic interstitial nephritis.

Milton Seymour Feldman, Northville, Mich.; University of Michigan Medical School, Ann Arbor, 1924; aged 28; died recently, at the Spring Hills Sanatorium, of pulmonary tuberculosis.

John W. Burgess, Higginsville, Mo.; Barnes Medical College, St. Louis, 1903; member of the Missouri State Medical Association; aged 56; died suddenly, June 9, of cerebral hemorrhage.

Samuel H. Anderson, Gibsonia, Pa.; Bellevue Hospital Medical College, New York, 1885; aged 64; died, February 28, at the Allegheny General Hospital, Pittsburgh, of cerebral hemorrhage.

Eugene Henry Lynch, San Francisco; St. Louis University School of Medicine, 1919; aged 34; died, June 23, at the Park Sanatorium, of acute dilatation of the heart and chronic myocarditis.

Charles A. Dewey, Rochester, N. Y.; Harvard University Medical School, Boston, 1880; member of the Medical Society of the State of New York; aged 85; died, June 13, of bronchopneumonia.

William Russell Stevens, Abington, Mass.; Tufts College Medical School, Boston, 1906; member of the Massachusetts Medical Society; aged 47; died, June 5, in Boston, of embolism.

Mary E. Towers, Minneapolis; University of Minnesota Medical School, Minneapolis, 1898; on the staff of the Ashbury Hospital; aged 70; died, in June, of chronic interstitial nephritis.

Lewis Harris Britton, Caledonia, Ohio; Starling Medical College, Columbus, 1905; member of the Ohio State Medical Association; aged 47; died, June 12, of cerebral hemorrhage.

Robert Pollard Stryker, Newcastle, Va.; Medical College of Virginia, Richmond, 1912; member of the Medical Society of Virginia; aged 38; died, June 13, of pneumonia.

Joshua Samuel Goodwin, Los Angeles; Rush Medical College, Chicago, 1922; member of the California Medical Association; aged 31; died, May 26, of heart disease.

L. G. Dexter, Harwood, Texas; Louisville (Ky.) Medical College, 1893; member of the State Medical Association of Texas; aged 59; died, June 5, of heart disease.

John H. Wolfe, Degraff, Ohio; Columbus Medical College, 1877; member of the Ohio State Medical Association; aged 73; died, June 23, of diphtheria.

Bayard Thistle Keller ✠ Cuyahoga Falls, Ohio; University of Maryland School of Medicine, Baltimore, 1871; aged 77; died, May 6, of heart disease.

Donald Campbell Meyers, Toronto, Ont., Canada; Trinity Medical College, Toronto, 1888; M.R.C.S., England, L.R.C.P., London, 1889; died, April 20.

Horace Rindress, North Sydney, N. S., Canada; Medical Department of the University of the City of New York, 1895; died suddenly, April 13.

Nicholas N. Wiger ✠ Seattle; University of Minnesota Medical School, Minneapolis, 1903; aged 48; died, June 6, of cerebral hemorrhage.

Winston Cass Wood, Bessemer, Ala.; Atlanta (Ga.) Medical College, 1881; aged 78; died, June 19, at Lipscomb, of chronic nephritis.

Burrell L. Craddock, Fort Worth, Texas; Memphis Hospital Medical College, 1891; aged 63; died, February 4, of heart disease.

Paul J. Kappes, Milwaukee; University of Bonn, Germany, 1888; aged 64; died, April 24, of gastro-enteritis and myocarditis.

John Hugh Bannon ✠ Lawrence, Mass.; Baltimore Medical College, 1898; aged 49; died, May 27, of carcinoma of the throat.

John William Maguire, Huntington, W. Va.; Bellevue Hospital Medical College, New York, 1878; aged 73; died, in May.

John Wheeler ✠ Plymouth, N. H.; Dartmouth Medical School, Hanover, 1898; aged 55; died, June 5, of nephritis.

Joseph W. Taylor, Hartford, Ky.; University of Louisville School of Medicine, 1875; aged 78; died, June 9, of pneumonia.

Stephen Smith Sanger ✠ Yukon, Okla.; Fort Worth School of Medicine, 1900; aged 52; died, June 3, of angina pectoris.

William Edward Todd, Hagerstown, Md.; Chicago Medical College, 1890; aged 65; died, June 22, of heart disease.

Edward P. Warren, Etters, Pa.; University of Maryland School of Medicine, Baltimore, 1868; aged 79; died, May 18.

Horace E. Deemer, Jefferson, Ohio; Columbus Medical College, 1883; aged 67; died, May 29, of pneumonia.

James W. Cartwright, Murfreesboro, Tenn.; Memphis Hospital Medical College, 1896; aged 69; died, May 17.

William F. Butler, Cayuga, Ind.; Medical College of Indiana, Indianapolis, 1895; aged 70; died, June 5.

George F. Slater, Chicago; Fort Wayne (Ind.) College of Medicine, 1896; aged 52; died, June 19.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

"VISCOSE" FOR VARICOSE VEINS

The Viscose Company of Los Angeles, California, sells a small amount of a glue mixture with a few rolls of gauze bandages for $30. This combination is sold as a means of reducing varicose veins. Apparently, the Viscose Company also gives medical treatment to those who will come to its

Leg Trouble
VARICOSE VEINS
—ULCERATIONS
Viscose Method gets at the real cause of ulceration, which is usually diminished circulation from swollen inner veins or varicose veins. New external application once a week replaces elastic stocking. Reduces swollen legs. Stops aches and pains. Makes blood circulate. Avoids laying up to heal sores. Results quick and positive while you work as usual. Send now for FREE BOOK. Tells how to get well at home. A. W. Viscose Co., 803 So. Lake St., Los Angeles, Calif.

Los Angeles headquarters, for, in some of its form-letters, we read:

"To reduce varicose veins permanently, you should come to Los Angeles for treatment. An injection in the vein puckers the vein and draws it up. . . . The varicose veins disappear without after-effects."

The letter then urges the sufferer, if he is not willing to come to Los Angeles, to buy the mail-order treatment that the concern sells.

The treatment consists of a pinkish gelatin-like mixture, which the company calls "Viscose," together with some rolls of gauze and of crêpe paper. The instructions are to melt the "Viscose" by placing the can in which it comes in a water bath and bringing the water to a boil. When melted, it is to be thinned down to the consistency of thin cream by the addition of hot water. The melted "Viscose" is then applied to the leg, starting with the foot and working toward the knee, application being made by means of a brush. The first application is made directly to the skin and, while the material is still "tacky," gauze is applied, working from the foot up to the knee. Then a second layer of "Viscose" is painted over the gauze bandage and over this one more layer of the gauze is laid. Then a third coat of "Viscose" is applied, and over it, the crêpe paper bandage is wound.

In order that some information might be available regarding the composition of "Viscose," the A. M. A. Chemical Laboratory was asked to analyze it. The laboratory report follows:

LABORATORY REPORT

"One original specimen of Viscose (Viscose, Inc., Los Angeles, California) was submitted to the A. M. A. Chemical Laboratory for examination. The product was of a rubber-like consistency and colored pink. Qualitative tests indicated the presence of zinc oxide, glycerin, a nitrogenous compound and water. The tests indicated the nitrogenous compound to be composed of gelatin rather than 'casein.' Starch, sulphides, sulphates and borates were not found.

"Quantitative analysis yielded the following:

"Nitrogen, calculated as gelatin	24.0 per cent
" (Nitrogen x 6.25)	
"Zinc oxide	16.6 per cent
"Glycerin and water (by difference)	39.4 per cent

"From the foregoing analysis, it is concluded that the product is essentially a mixture of zinc oxide and glycerin in a gelatin base. The material seems to be little better than white carpenters' glue with glycerin. The name itself is misleading, as viscose is a well recognized chemical substance known for years and used in making caps for covering bottles, for making artificial hog casings and in the manufacture of artificial silk.

"A product similar to the viscose 'glue' of the Viscose, Inc., can be prepared as follows:

"Gelatin	5 parts
"Water	5 parts
"Calamine	4 parts
"Glycerin	6 parts

"Dissolve the gelatin in hot water, add warm glycerin and calamine (which is impure zinc oxide, used because of its pink color). Mix thoroughly and pour into a mold."

THE JOY BEANS LABORATORIES FRAUD

A Piece of Aphrodisiac Quackery Debarred from the Use of the Mails

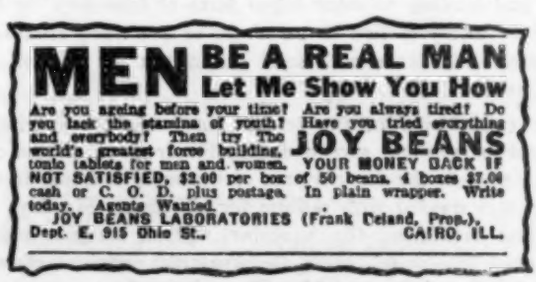
One Frank Beland of Cairo, Illinois, exploited an indecent piece of quackery under such trade names as "Joy Beans Laboratories" and "Beland Laboratories." He sold a preparation called "Joy Beans," which was advertised under the claim that the product was a sexual tonic. Beland, of course, had no medical or professional training and employed no physicians, chemists or pharmacists. His nostrum, according to the government report, was put up for him by Eli Lilly and Company of Indianapolis. He had two formulas for Joy Beans, Nos. 1 and 2. The ingredients in No. 1 were:

Pepsin	85/100 grain
Potassium Iodide	2½ grains
Carbolic Acid	½ grain
Zinc Phosphide	⅛ grain
Powdered Nux Vomica	⅛ grain
Strychnine	1/60 grain
Yohimbin Hydrochloride	1/12 grain
Calcium Carbonate	95/100 grain

The ingredients in Joy Beans No. 2 were:

Granulated Pepsin	2 grains
Muirapuama Root	4 grains
Powdered Nux Vomica	⅛ grain
Powdered Zinc Phosphide	⅛ grain
Powdered Yohimbin Hydrochloride	1/10 grain
Powdered Strychnine	1/60 grain
Gold Chloride	1/100 grain
Ferric Chloride Crystals	½ grain
Methyl Salicylate	Sufficient to flavor

In the stationery sent out by Beland, Joy Beans were described as "a preparation of roots, barks and herbs gathered from all parts of the world." Some of the further claims made for his nostrum were:


MEN BE A REAL MAN
Let Me Show You How
Are you ageing before your time? Are you always tired? Do you lack the stamina of youth? Have you tried everything and everybody? Then try The world's greatest force building, tonic tablets for men and women. JOY BEANS
YOUR MONEY BACK IF NOT SATISFIED. $2.00 per box of 50 beans. 4 boxes $7.00 cash or C. O. D. plus postage. In plain wrapper. Write today. Agents Wanted.
JOY BEANS LABORATORIES (Frank Beland, Prop.),
Dept. E, 915 Ohio St., CAIRO, ILL.

"Joy Beans are a scientifically prepared tonic for assisting nature to rebuild the weak and worn glands and help to restore them to youthful activity in both sexes."

"If you feel your strength failing, don't wait; delay is dangerous; begin taking Joy Beans at once."

"Fills your blood with rich red corpuscles, makes 'fighting blood,' the kind that tends to make the weak strong and the strong stronger. Fills you with pep."

"The most wonderful vitalizing, strength giving tonic science has as yet produced; a real fountain of youth."

The federal authorities, in looking into this fraud, found that Beland sold his preparation to persons regardless of the symptoms furnished. One letter written to Beland stated that the writer was 81 years old, lacked the stamina of youth, had lost all sexual power and that his prostate gland was in such condition that urine had to be withdrawn by means of a

catheter. Beland was told that if Joy Beans would cure these conditions, to send a $2 package. Beland sent it.

As Joy Beans did not contain roots, barks and herbs gathered from all parts of the world, and would not "restore lost manhood," neither would it protect the sex glands from wear and tear, nor build up the glands in 81-year-old men to youthful activity, the business that Beland was engaged in was declared fraudulent and was debarred from the use of the mails.

Correspondence

XYLENE FOR REMOVAL OF WAX

To the Editor:—Recently I had to treat two patients with hands severely burned by the overturning of a pot of hot sealing wax. What promised to be a very painful and tedious task was made easy by the use of xylene.

Absorbent cotton was saturated with xylene and placed over the sealing wax. In a few minutes the wax had softened where it was thinnest and peeled off as the cotton was removed. Over the areas where there was a thicker layer of wax it was necessary to leave the saturated cotton longer and to aid in the removal of the wax by using dressing forceps. In both cases the wax came off without injuring the blistered skin.

Both patients were delighted with the results and neither complained of any irritation from the xylene, a common experience when it is used to remove adhesive plaster.

This use of xylene suggested itself because of the ease with which it softens asphaltum and like preparations in the laboratory.

C. T. Sharpe, M.D., New York.

IMPORTANCE OF VASCULAR PERMEABILITY IN THE RADIOTHERAPY OF CANCER

To the Editor:—In The Journal, Nov. 6, 1926, page 1537, Dr. A. U. Desjardins states, in his article on "Stimulation and Immunity in Radiotherapy," that "the major effect of radium or roentgen rays is a direct one," and that the "false notion that the partial regression of a tumor resulting from irradiation is due to products elaborated in some mysterious way and leading to some vague form of immunity" is based on a misinterpretation or an abuse of the word stimulation.

I must take issue with such statements for the following reasons:

An epithelioma of the scleral conjunctiva, involving the corneal margin and surrounded by hundreds of dilated capillaries, save in the corneal part of the margin which is avascular, was treated with radium for six days. Six days after the last treatment the vascular scleral margin had not advanced any more, while the avascular corneal edge had pushed forward 1 mm. and infiltrated the deep cornea. This was verified by an examination with Vogt's corneal microscope. Nine days later, only a few remnants of the tumor were left either in the scleral or in the corneal part. However, whereas no capillaries formerly existed in the corneal area, dozens of them now had developed, surrounding the remnants of the cancer cells. Three months later, the epithelioma was cured and the vascular inflammation had subsided.

This experience compels me to conclude that: 1. As the scleral margin pushed forward after the irradiation, its healing cannot be the result of any direct action of radium, as there was none at the time. 2. As the corneal area, which normally has no vessels, succeeded in producing them after the irradiation, the presence of a stimulative formation around the corneal border of the epithelioma must be accepted. 3. As the corneal margin of the epithelioma kept on growing when vessels did not exist and disappeared when capillaries developed, the presence of such vessels must be necessary. 4. Since the vascularization of the scleral margin could not stop the growth of the epithelioma before irradiation, the vascular wall must have been changed by the rays. 5. As there were no capillaries during irradiation, and, moreover, when they developed, the corneal margin of the epithelioma vanished, the change in the vascular wall must be an indirect postirradiation result.

The mechanism causing this change in the vascular wall is not known. However, clinical experience, biologic and chemical experiments(Kroetz, Siedamgrotzky, Cramer), and capillary histology and microscopy combine to show that roentgen rays and radium cause a permeabilization of the parietal wall to many substances which could not cross it before. It seems as if the different permeability shown by the different vessels, both normal and pathologic, was not as yet fully realized.

My present working hypothesis for the treatment of malignant tumors is based on the experiments of Mooser of Mexico City, Dujardin of Brussels and the investigations on metabolism in cancer by Warburg of Berlin. All the causes so far brought forward for cancer—(*a*) chronic irritation (mechanical: stenosis and pressure; physical: heat, light, roentgen rays and radium; chemical: arsenic, silver, thallium, coal tar and paraffin); (*b*) chronic infection, tuberculosis, syphilis; (*c*) dyskeratoses and scars—bring about the same result: sclerotization and decreased vascular permeability to internal secretion products, ferments and especially oxygen. The success of roentgen rays and radium is due to the permeability (erythema, edema) of vessels formerly impermeable to oxygen and probably to other protecting substances. Failures of this therapy occur when the vessels are obliterated or too injured.

Gustav Peter, M.D., Mexico City.
Radiologist, American Hospital
and British Hospital.

KOPLIK SPOTS

To the Editor:—In the summer of 1862, I was a medical student in the office of the celebrated anatomist Robert Laughlin Rea. There were several private students in the city, and during the vacation period we attended clinic on Wednesdays and Saturdays, each member of the faculty giving one a month. One day, during Dr. J. Adams Allen's clinic, a woman brought in a small child. It looked like "the last rose of summer," and had a hacking cough, suffused eyes and hot skin. Dr. Allen said, "Beasley, find out what is the matter with that child." Dr. Rea had instructed me in auscultation and percussion, especially on the normal sounds. He had often said, "Get the normal healthy sounds of the lungs and heart fixed in your memory and you'll readily know when they are wrong." We used tactile sense prior to the invention of the fever thermometer.

The chest was resonant, but when I put my ear on the chest I was astounded at the sounds. Not long before I had listened to the chest of one who was suffering from a slight cold, but this was much worse. I said, "A very bad cold." "No," said the doctor; "Avery, see if you can tell me." He did no better. Then turning to me, Dr. Allen said, "Look in the mouth and tell me what you see." I was surprised to find that the inside of the cheeks and the fauces were covered with small red points. That is the first sign of measles, which always begins that way. I learned it from an old lady who was the general nurse in that neighborhood. When I began practice I found that most of the old timers knew it. One I recall who attended only one course of lectures, who said, "When I am called to see a child and it has the snuffles

and the eyes are watering, I look in the throat first to see if I shall quarantine."

Several years ago at one of our county society meetings, measles was under discussion. There were present several recent graduates, one a woman. She was up to date and spoke of the Koplik sign as the latest thing in diagnosis. The name was a new one on me; I had never any trouble in the diagnosis for I had always looked in the mouth, and I was ashamed to get up and confess my ignorance. Next day I met one of the members and asked him what was that new diagnostic symptom. He told that a wonderful German, down east, had discovered that before measles made its appearance on the skin it appeared on the inside of the cheeks and fauces. I was amazed, for I had known it when Koplik was a small child.

"There is nothing new under the sun."

GEORGE F. BEASLEY, M.D., Lafayette, Ind.

A NOVEL TRICK TO OBTAIN MORPHINE

To the Editor:—A man giving the name Webster recently called on me, saying that he had been referred to me for treatment by the superintendent of the cement mills here. He claimed that he had to use sulphate of morphine in intestinal irrigations for amebic dysentery, and in support of his statement he presented what purported to be a letter from Dr. ———— of Nashville, Tenn. This supposed letter said that the patient was incurable and that any physician would be doing a kind act to furnish him with 40 grains of sulphate of morphine or prescribe it for him. Dr. ————, by whom the supposed letter was purported to have been written, had, according to the letter, furnished the patient with scales for weighing out the quantity to be used and had given instructions as to dosage. Inquiry showed that the superintendent of the cement mills had not referred the patient to me. I did not fall into the trap. I have notified Dr. ————, whose name this patient used in his efforts to obtain morphine. I am writing to THE JOURNAL of the incident, however, in order that it may put physicians generally on their guard against this scheme.

JOHN ASA GIBBONS, M.D., Mitchell, Ind.

SODIUM PERBORATE FOR VINCENT'S ANGINA

To the Editor:—In his article on oral lesions due to Vincent's angina (THE JOURNAL, April 9, p. 1142), Dr. Joseph C. Bloodgood calls attention to the specific action of sodium perborate. The statement is made that "before trench warfare in France, in 1914, . . . a specific therapeutic agent had not been discovered." Unfortunately, there is a lack of liaison between dental and medical publications; hence I am calling your attention to the original publication.

In a paper read before the El Paso County (Texas) Medical Society in January, 1913, I reported the discovery of the specific action of sodium perborate in the treatment of Vincent's angina. This paper was published in the *Bulletin of the El Paso County Medical Society* in October, 1913 (**5**:9-14), and in the same month in the *Western Dental Journal* (**27**:13-18) and republished in the *Dental Digest* (**20**:478-482, 1914). On page 555 of the fifth edition of Modern Dental Materia Medica, Pharmacology and Therapeutics, Dr. Buckley says: "Dr. Henri Letord, a dentist of El Paso, Texas, is credited with being the first to bring the use of this drug [referring to sodium perborate] before the attention of the medical and dental professions."

I write this letter believing that you will be interested in having a correct record of this discovery.

HENRI LETORD, D.D.S., El Paso, Texas.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MALTED MILK NOT A BALANCED DIET

To the Editor:—I would greatly appreciate an expression from you as to the advisability of giving malted milk to babies and growing children. Do you regard malted milk as a balanced diet? In your judgment does it provide the five basic food elements—fats, proteins, carbohydrates, minerals and vitamins—in proper proportions?

CHARLES L. SUMMERS, M.D., Baltimore.

ANSWER.—It is generally agreed that simple mixtures composed of cow's milk, water and sugar are most suitable as a substitute for breast milk in infant feeding. It has been shown by a number of observers that milk may be dried and still retain a considerable part of its antiscorbutic vitamin, provided it is dried quickly and packed in air-tight containers.

On the other hand, it is probable that dried milks, though they may contain vitamins when freshly prepared, tend to lose them if kept for a considerable time before being used.

McCollum and Davis believe that scurvy is more likely to occur with milk preparations that have been preserved for a long period.

It might be debatable whether malted milk is a well balanced diet. Analysis shows most of them to be largely carbohydrates, 67.95 per cent of the mixture being sugars, lactose, maltose and dextrins. The fat protein and ash contents are moderate in quantity.

For nearly every baby food, one may find a group of happy contented and fat babies who have thrived on it. On the other hand, the same food, when improperly, unwisely or excessively used, may have caused rickets, scurvy or diarrhea, or have contributed its share in increasing the infant mortality.

On account of the high carbohydrate content of malted milk, fermentation and diarrhea may result from its use. Some older children and adults relish it as a beverage, and in acute illness it may be served as a nutritious food.

INDUSTRIAL HAZARD IN PAINTING BY SPRAY METHOD—DUCO PAINT

To the Editor:—The board of education is having some of its interior painting work done by spray guns in addition to having painting work done by brushes. A question has been raised as to the effect on the health of workmen operating these spray guns, using lithophone paint in the one case and lead and oil paint in the other case. It has been said that these operators are exposed to lead or benzene poisoning.

JAMES F. BROWN, Cleveland.

To the Editor:—Please tell us what is the best type of gas mask to be used by workers in Duco paint shops. Is there a standard code for ventilation, etc., for these Duco shops? If you do not have this information available could you tell us where we could find it out? Please omit name.

M.D., Minnesota.

ANSWER.—The literature concerning the hazards from the use of lead paint by means of mechanical sprays is relatively meager. Perhaps the best summary of the subject is that by Alice Hamilton, author of "Industrial Poisons in the United States," published by the Macmillan Company, 1925.

> There are two changes [says Dr. Hamilton] which have come fairly recently in the painters' trade, both of which have spread with great rapidity and both of which result in adding decidedly to the dangers of the industry. These are the use of quick-drying paints for interior decoration and the use of the so-called spray gun for applying paint. The spray method of painting and varnishing has increased in popularity with bewildering rapidity during the last few years. The danger is obvious. A finely divided spray of lead paint or of paint which is lead free but contains volatile thinners of the petroleum or coal-tar series is a very difficult thing to handle without poisoning the air which the sprayer must breathe. Agricultural machinery, automobile bodies and furniture are now usually painted by spraying, and although an effort is made to safeguard the painter by the provision of cabinets with exhaust ventilation, the practical difficulties are great. A much greater problem is presented by the use of the spray gun in painting walls and ceilings and shelves and mantelpieces inside buildings.

About five years ago, N. C. Sharpe of the Toronto University "published a report of a very careful investigation of the hazards involved in using lead paint by the spraying method. He made up a paint with white lead for pigment,

turpentine, linseed oil and benzine for the liquid vehicle, and this he used in a spray with a pressure of 35 to 55 pounds per square inch. Specimens of air were collected by Duckering's method, the samples being taken at the level of the painter's nose and mouth. Sharpe found that when lead paint is used in spraying the interior of buildings there is a decided danger of lead poisoning, but in spraying small objects inside a cabinet this danger may be prevented, provided there is an adequate exhaust properly placed, provided the cabinet is deep enough and of proper shape, and provided the object to be sprayed is not too large. If the exhaust is placed above the painter the spray will be drawn up past his face, and if the object is large and the painter stands directly in front of it spraying at a right angle, the spray will roll back toward him in spite of the exhaust.

"Sharpe tested masks, respirators, to see how much protection they afforded to men using the spray gun in interior decoration. 'Masks of comfortable breathing thickness moistened with a 5 per cent solution of sodium sulphide, reduced the amount inhaled from 232 mg. per 10 cubic meters of air to 12.4 mg., and a similar mask, but dry, allowed only 11 mg. to pass through. Both these results are still over the danger line'; that is, Legge's limit of 5 mg. per 10 cubic meters of air. A really effective mask, Sharpe believes, would not let through enough air to allow the man to do his work. Beating the dried overalls after spraying resulted in the recovery of dust containing from 2.79 mg. to 6.02 mg. of lead."

Lead paint is being used less and less in spraying machines. Quick-drying and leadless paints, such as the lithophone paint mentioned by our correspondent, or various paints made from pyroxylin, such as Duco, are the ones coming into more general use. Complaints of ill health have been made from painters engaged in the use of these. In the latter cases, the chief hazard is from the solvents used. It is obvious, of course, that in all cases where sprays are being used, irrespective of the paint, a factor of prime importance is proper ventilation.

A considerable amount of work has been done on the safe use of Duco as regards both fire and health hazards by the DuPont Company, Wilmington, Delaware. This has been published in a bulletin, which they will forward on inquiry.

The Universal gas mask, manufactured by the Mine Safety Appliances Company, Pittsburgh, is undoubtedly proficient for the purpose. These workers should be so protected by mechanical means, however, that they need not wear gas masks.

MEDICAL DISCOVERIES BY YOUNG MEN

To the Editor:—Please send me a brief list of the great discoveries made in medicine by comparatively young men, with the age of these men at the time the discovery was made, and the nature of the discovery. Please omit name.

M.D., Pennsylvania.

ANSWER.—We would suggest the following:

William Harvey described the circulation of the blood in 1628, at the age of 50.

Thomas Bartholinus described the existence of the thoracic duct in 1652, at the age of 36.

Jan Swannerdam observed red corpuscles in frog's blood in 1658, at the age of 21.

John Abernethy was the first to ligate the external iliac artery for aneurysm in 1796, at the age of 32.

Ephraim McDowell performed the first ovariotomy in 1809, at the age of 38.

Joseph Priestley discovered nitrous oxide in 1772, at the age of 39.

René Laënnec invented the stethoscope in 1815, at the age of 34.

Crawford W. Long performed the first operation with the patient under the influence of ether in 1842, at the age of 27.

William Thomas Green Morton used ether in 1846, at the age of 27.

Lord Lister communicated his successful results in antisepsis to a meeting in 1867, when he was 40 years of age. He had graduated twelve years before.

Robert Koch discovered the tubercle bacillus in 1882, when he was 39 years old.

Von Behring first used diphtheria antitoxin in 1890, when he was 36 years old.

Frederick Banting discovered insulin in 1923, when he was 31 years old.

Madame Curie did her work on radium in 1899, when she was 32 years old.

Darwin did his work on the origin of species at 29 years, and Wallace his at 36 years.

Pasteur's epoch-making discoveries started with his work on ferments when 35 years old.

Servetus published his discovery of the blood circulation when 44 years old.

Eustachius completed his anatomic tables when 28.

Vesalius swept away Galen's anatomic errors with his Fabrica when 29 years old.

Fallopius completed his remarkable discoveries before he died at 39.

Ehrlich discovered mast cells and began his stain work when 23 years old.

Paré performed the first exarticulation of the elbow when 26 and published his book on gunshot wounds when 35.

Jenner began his observations on vaccination when not yet 30.

Lavoisier discovered oxygen when 32.

Neisser discovered the gonorrhea bacillus when 24, and Schaudinn *Spirochaeta pallida* when 34.

Bichat published his treatise on membranes when 28.

Semmelweis recognized the infectiousness of puerperal fever when 29.

Skoda systematized percussion and auscultation when 34.

Widal suggested his typhoid test when 34.

Claude Bernard, when 30, had already started his study of the glycogenic function of the liver.

Von Helmholz, at 26, had already established the law of conservation of energy.

Du Bois-Reymond, at 25, discovered the difference of potential between the cut and the uninjured ends of an excised muscle or nerve, and defined electrotonus.

Velpeau published the first detailed work on surgical anatomy when 28.

Carl Ferdinand von Graefe, when 29, devised the operation for cleft palate and founded modern plastic surgery, and his son Albrecht described keratoconus when 26 and introduced iridectomy in several eye conditions when 27.

Bell began publishing his anatomy when 30.

Hodgkin described the disease still bearing his name when 34.

Ricord established the differentiation of gonorrhea and syphilis when 32.

POULTICES IN PNEUMONIA

To the Editor:—Please let me have your opinion as to the value of poultices in the treatment of pneumonia.

ABELARDO GONZALEZ, M.D., Templeton, Pa.

ANSWER.—In the treatment of lobar pneumonia, poultices are probably valueless excepting to the degree to which they might exert an analgesic action against pain in the chest. By no stretch of imagination can one see how applications to the outside of the chest could affect the consolidation characteristic of this disease. In bronchopneumonia, on the other hand, general hyperemia of the chest wall might possibly be beneficial in lessening bronchial congestion, and, in this manner, improve aeration of the lungs, which probably explains the sense of relief that may be experienced.

SAFETY OF STERILIZATION PROCESS

To the Editor:—Please give me what you consider the consensus regarding the safety for surgical procedures of sterilization as done in a National sterilizer, or any similar steam pressure outfit such as is used in homes for canning fruit and vegetables. Please use initials only.

F. E. H., M.D.

ANSWER.—The steam pressure cooker has been used with safety in the canning of vegetables and meats. The processes involving their use which may be regarded as safe are given in a circular on processing, issued by the Bureau of Home Economics of the United States Department of Agriculture, Washington, D. C. The processes used in the canning of meats and vegetables which may be regarded as safe could be used for sterilization purposes of material used in surgical procedures.

One difficulty with these cookers, as they are sold, is that they are usually equipped with a single pressure gage. It is the opinion of many that such a type of cooker should be equipped with both a thermometer and a pressure gage, and the operator should also know that the two are in agreement. Of course, this precaution is suggested because one instrument will sooner or later get out of order. The thermometer is likely to last a good deal longer than the pressure gage.

One difficulty in using the small pressure cookers is that when they are heated on the stove, as they often are, the heating is rather slow. This does not interfere, however,

with the safety of the products processed in them, since the time for processing begins when the holding temperature is reached. Therefore, if a pressure cooker is equipped with a thermometer and a pressure gage and both instruments are correct and in agreement, and the temperature reached (approximately around 115 C.) is maintained for a sufficient length of time, the pressure cooker could be used for the sterilization of material used in surgical procedures.

CONTINUANCE OF SYMPTOMS AFTER PROSTATECTOMY

To the Editor:—A man, aged 72, one and a half years ago had a prostatectomy at a reliable clinic. Now he still has to urinate every hour and has smarting afterward. Kindly advise me about treatment for him. What is "string bladder"?

M.D., Maine.

ANSWER.—The symptoms reported may be due either to a true recurrence or to a cicatricial contraction at the site of the enucleation. A recurrence is rather rare and originates in nodules left within the prostatic lobe. The diagnosis is established by palpation, by the fact that the urethra appears again to be elongated and by cystoscopy. The latter procedure is also employed for establishing the presence of a cicatricial contraction around the vesical outlet. The extent of a true recurrence or of the cicatricial constriction determines whether the obstacle has to be removed by excision through a suprapubic cystotomy or whether an endoscopic operation may be employed to advantage. For the latter intervention any one of the electric prostatotomes devised for this purpose may be used.

The term "string bladder" does not seem to denominate any well defined pathologic condition.

CAMEMBERT CHEESE

To the Editor:—I have been asked if the thick outer portion with the mold which forms the exterior of a Camembert cheese is eatable. I would also like to know what constitutes this mold and whether there is any advantage in eating or discarding it.

M.D., New York.

ANSWER.—The Camembert mold that forms the rind of Camembert cheese is eatable. The Camembert mold ripens the cheese from the outside, whereas in the case of Roquefort cheese the Roquefort mold grows within the cheese and develops the Roquefort flavor.

DIATHERMY IN PROSTATIC ENLARGEMENT

To the Editor:—What place, if any, has diathermy in the treatment of nonmalignant enlargement of the prostate; also, is it indicated in inflammation of the gland with or without gonorrhea? If this treatment has a place, what type of portable machine is the best and who is the maker? Of course, I refer to cases that have not come to the point at which a surgeon considers an operation indicated.

K. R. PARMENTER, M.D., Colorado Springs, Colo.

ANSWER.—True neoplastic enlargement of the prostate, whether benign or malignant, is not appreciably influenced by diathermy. In microbic inflammation of the gland, diathermy is a valuable therapeutic agent. One must distinguish between the symptomatic relief and the reducing of the inflammatory tumefaction. The latter may not always be accelerated, but the extreme sensitiveness of the swollen prostate and the concomitant rectal and vesical tenesmus are in practically all instances promptly alleviated.

An important factor is the duration of each treatment, which should extend to about thirty minutes. For this purpose tolerance of the rectum must be established. The bowel must be free of fecal matter. This is best accomplished by an oil enema, since medical catharsis is apt to increase the irritability of the rectum. In sensitive patients it will be necessary to obtund the excessive sensitiveness of the prostate and rectum by the previous insertion of a rectal suppository carrying some opiate. In this way, painful contractions of the prostate and seminal vesicles are prevented.

It is a matter of experience that the tolerance of the patient increases with each consecutive treatment. For heating the prostate, especially designed electrodes are used. The indifferent blocked tin electrode is placed on the abdominal skin. For the determination of the dosage, exact figures cannot be given. The operator should be guided by this point: The current is slowly started and increased until the patient reports a distinct sensation of warmth but not of heat. The latter instance calls for reduction of the current.

While skepticism toward excessive claims is justified, still diathermy, if properly applied, has pronounced merits. In chronic cases it is an indispensable component of the treatment. Any portable machine manufactured by firms whose advertisements are scrutinized and accepted by the American Medical Association will answer the demands of the operator.

PANCREOLS

To the Editor:—A member of my staff recently had a patient who had been advised to take Pancreols for diabetes. On page 44 of the enclosed pamphlet you will see what is going on. Can you report on this product and on the firm which exploits it?

W. W. P., M.D., New York.

ANSWER.—The pamphlet is a piece of advertising "literature" of the Drug Products Co., Inc., dealing, among others, with their product Pancreols (formerly called Insulols), claimed to be rectal suppositories "Containing Specially Prepared Desiccated Pancreatic Hormone-bearing Substance Containing the Active Principle of the Islands of Langerhans." In effect this preparation offers insulin for rectal administration.

A note on Insulols (the former name of Pancreols) appeared in THE JOURNAL, July 26, 1924, p. 289, pointing out that scientific evidence had not been offered for the value of this product. Reference was made to an article in THE JOURNAL, Sept. 1, 1923, p. 752, reporting the unsuccessful use of insulin administered in rectal suppositories, but attention was called to another article (THE JOURNAL, July 26, 1924, p. 301) which indicated that in animals absorption might occur in some instances. The work of Labbé, Nepveux and Forsans (*Bull. et mém. Soc. méd. d. hôp. de Paris*, Oct. 24, 1924, p. 1431), who found the rectal administration of insulin of little or no value, as compared to the subcutaneous route, against glycemia, glycosuria or acidosis, appears to establish the inefficiency of this method. THE JOURNAL (Feb. 25, 1927, p. 652) in an editorial comment on "The Uselessness of Insulin by Inunction" classes the administration of the drug by rectum among other methods which are "either mechanically difficult, inconclusive, inconstant, or wasteful of the drug."

No preparation of the Drug Products Co., Inc., has been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies. A number of this firm's products have been reported on unfavorably; viz., Pulvoids Calcylates (THE JOURNAL, Sept. 9, 1916, p. 827; Propaganda for Reform **2**:85); Pulvoids Calcylates Compound (THE JOURNAL, June 14, 1919, p. 1784; Propaganda for Reform **2**:226), and Pulvoids Natrium Compound (Annual Reports of the Council on Pharmacy and Chemistry, 1916, p. 69; Propaganda for Reform **2**:108).

PARAPLEGIA DURING TREATMENT FOR SYPHILIS

To the Editor:—Will you kindly give your opinion regarding the sudden development of paraplegia (transverse myelitis) during intravenous treatment of syphilis with arsphenamine? Is there recent literature on the subject? Although I have had the opportunity of observing a large number of syphilitic patients over a period of years, I have not encountered this condition until the last two years, since which time I have seen several. This has impressed me as being a type of Jarisch-Herxheimer reaction. Please omit my name.

M.D., California.

ANSWER.—The development of a transverse myelitis following the administration of arsphenamine is certainly exceptional and there are practically no reports of such a condition in the literature. The nearest approach to it is a report of an acute ascending myelitis by Viets (*Boston M. & S. J.* **188**:895 [June 7] 1923). In that article the author discusses the possibility of the occurrence of an acute myelitis similar to the hemorrhagic encephalitis that is known to occur, apparently as a direct result of the arsphenamine. The Jarisch-Herxheimer reactions strictly are skin manifestations that occur only in the early secondary stage of syphilis. The so-called neurorecurrences, in which cranial nerves are most often affected, are probably syphilitic and not due to the drug administered. In considering the possibilities it must not be forgotten that myelomalacia, often called transverse myelitis, is not an uncommon result of thrombosis of syphilitic vessels in the cord and develops as a rule during the late secondary stage. It seems more probable that the cases observed were of this nature than that they were reactions due to the arsphenamine. Villaverde (*Siglo méd.* **79**:664 [June 11] 1927 has seen transverse myelitis result from treatment of neurosyphilis in a considerable number of cases. In these instances, however, the treatment was administered by the intraspinal route.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, Sept. 6. Sec., Dr. Harry C. DeVighne, Juneau.

NATIONAL BOARD OF MEDICAL EXAMINERS, Parts I and II, Sept. 14-16. Applications should be made by August 14. Sec., Dr. John H. Rodman, 1600 Walnut Street, Philadelphia.

NEW HAMPSHIRE: Concord, Sept. 8-9. Sec., Dr. Charles Duncan, Concord.

PORTO RICO: San Juan, Sept. 6. Sec., Dr. D. D. Biascoechea, Box 804, San Juan.

SOUTH DAKOTA: Huron, July 19. Dir. Medical Licensure, Dr. H. R. Kenaston, Bonesteel.

WEST VIRGINIA: Martinsburg, July 26. Commissioner, Dr. W. T. Henshaw, Charleston.

Colorado January Examination

Dr. David A. Strickler, secretary of the Colorado Board of Medical Examiners, reports the written examination held at Denver, Jan. 4, 1927. The examination covered 8 subjects and included 80 questions. An average of 75 per cent was required to pass. Of the 6 candidates taking the physicians' and surgeons' examination, 4, including 3 osteopaths, passed and 2, 1 undergraduate and 1 osteopath, failed. Fourteen candidates were licensed by reciprocity and 2 by endorsement of their credentials. The following colleges were represented:

PASSED	Year Grad.	Per Cent
College		
St. Louis College of Physicians and Surgeons	(1925)	88.3
Osteopaths	76.4, 82,	88.3

FAILED	Per Cent
College	
Undergraduate	73.8
Osteopath	62

LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College		
American Medical Missionary College, Chicago	(1904)	Wisconsin
Northwestern Univ. Med. School	(1899), (1906), (1919)	Illinois
Indiana University School of Medicine	(1925)	Indiana
Central Medical College of St. Joseph	(1897)	Missouri
University of Nebraska College of Medicine	(1924)	Nebraska
Bellevue Hospital Medical College	(1889)	Iowa
University of Buffalo School of Medicine	(1923)	New York
Pulte Medical College, Cincinnati, Homeopathic	(1897)	Ohio
Jefferson Medical College of Philadelphia	(1923)	Penna.
Meharry Medical College	(1915)	Texas
Memphis Hospital Medical College	(1911)	Tennessee
University of Vermont College of Medicine	(1921)	Mass.

ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
College		
St. Louis University School of Medicine	(1924)	U. S. Navy
Washington University School of Medicine	(1925)	U. S. Navy

Montana April Examination

Dr. S. A. Cooney, secretary of the Montana Board of Medical Examiners, reports the written examination held at Helena, April 4-6, 1927. The examination covered 10 subjects and included 50 questions. An average of 75 per cent was required to pass. Of the five candidates examined, 4 passed and 1 failed. Two candidates were licensed by reciprocity. The following colleges were represented:

PASSED	Year Grad.	Per Cent
College		
College of Physicians and Surgeons, Chicago	(1903)	88.5
State University of Iowa College of Medicine	(1926)	88.5
University of Michigan Medical School	(1919)	84.7
Washington University School of Medicine	(1924)	83.6

FAILED	Year Grad.	Per Cent
College		
Hospital College of Medicine, Louisville	(1904)	59.4

LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College		
Keokuk Medical College, Coll. of Phys. and Surgs.	(1906)	Iowa
University of Minnesota Medical School	(1900)	Minnesota

District of Columbia April Examination

Dr. Edgar P. Copeland, secretary of the Board of Medical Supervisors, District of Columbia, reports the oral and written examination held in Washington, April 12-14, 1927. The examination covered 16 subjects and included 80 questions. An average of 75 per cent was required to pass. Fourteen candidates were examined, all of whom passed. Four candidates were licensed by reciprocity. The following colleges were represented:

PASSED	Year Grad.	Per Cent
College		
Georgetown University School of Medicine	(1925)	87.2
George Washington University Medical School	(1927)	80.6
Johns Hopkins University Medical School	(1924) 85.9,	91.8
University of Maryland School of Med.	(1915) 79.9, (1922)	87.3
Tufts College Medical School	(1924)	88.4
Harvard University	(1912) 89.7, (1918)	86.3
Western Reserve University School of Medicine	(1897)	83.6
Medical College of the State of South Carolina	(1922)	87.4
University of Texas School of Medicine	(1926)	86.7
University of Virginia Department of Medicine	(1926)	83.5
University of Western Ontario Medical School	(1921)	91.5

LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College		
University of Louisville School of Medicine	(1915)	Virginia
Southern Homeopathic Medical College, Baltimore	(1906)	Maryland
Tufts College Medical School	(1921)	Maine
University of Pennsylvania School of Medicine	(1909)	California

Book Notices

MUSCULAR CONTRACTION AND THE REFLEX CONTROL OF MOVEMENT. By J. F. Fulton, B.Sc., M.A., Ph.D. Cloth. Price, $10. Pp. 644, with illustrations. Baltimore: Williams & Wilkins Company, 1926.

Not since the publication of Sherrington's Integrative Action of the Nervous System has such a monumental scientific compilation and critical analysis of muscular contraction and the nature of its reflex control been published. The volume details the advances in this field since 1906 and is a companion volume to Sherrington's classic. Full description is given of advances made into the mode of action of the central nervous processes on the basis of modern methods of attack. Part I, dealing with the nature of the contractile response of individual skeletal muscle fibers, is based on the author's own researches. The extensive bibliography indicates the grasp of the literature possessed by the author. The book fulfils a want long felt in physiologic circles. It will furthermore be heartily welcomed by those few clinical neurologists who themselves are interested and active in helping to unravel the intricacies of nervous action in health and disease. For such the book is indispensable. The general practitioner would find it much too technical and "scientific."

OBSTETRICS FOR NURSES. By Joseph B. De Lee, A.M., M.D., Professor of Obstetrics at the Northwestern University Medical School. Eighth edition. Price, $3 net. Pp. 635, with 267 illustrations. Philadelphia: W. B. Saunders Company, 1927.

The fact that this book has reached its eighth revision and has been reprinted thirty-seven times during the last twenty-three years is an indication of its popularity. And there is no doubt that its popularity is well deserved. The present volume is somewhat larger than the previous ones, and is enriched by the addition of many new illustrations. Special attention is again devoted to the subjects in which nurses can be of particular help in obstetrics; namely, prenatal care, puerperal infection, the toxemias and the complications of labor. The author does not lose sight of the fact that the majority of births still occur in the home, and the nurses are explicity instructed in the care of the patients there. As in previous editions the text is down to date and includes everything that can be of use to a nurse who has the care of an obstetric patient. The illustrations are most abundant, unusually clear and very instructive. Those of the methods of identification of the baby show that at the Chicago Lying-In Hospital five different methods of identification are used for each baby; hence the danger of exchanging babies is reduced to a minimum. The section on analgesia includes a detailed account of Gwathmey's synergistic method, and the section on anesthesia contains a discussion on ether, chloroform, nitrous oxide and ethylene. In the section on the preparation of the patient, the author discusses not only the usual scrub and flush method but also the use of iodine and of mercurochrome-220 soluble. The author devotes a number of pages to pelvic mensuration. In addition to giving the usual information, he cites specific cases of contracted pelvis and discusses the kind of labor to be expected in these cases. Such a discussion makes the subject of pelvic measurements very practical. The chapters on the care of the babies, especially

the one on premature infants, are most instructive. Even a hasty perusal of the book will indicate why it is the most used textbook for nurses. It is written in an easy, delightful style by a person who, for more than thirty-five years, has been teaching not only students of medicine and graduate physicians but also nurses. The information given is practical and is of use to the nurse in the most elaborate maternity hospital as well as in the dirtiest hovel. The continued popularity of the book is certain. It is unfortunate, however, that better paper was not used.

LA CESÁREA EXTRAPERITONEAL Y LA TRANSPERITONEAL SUPRASINFISARIA SUS MODALIDADES TÉCNICAS Y SUS FINALIDADES TERAPÉUTICAS. Por Mateo Carreras. Paper. Pp. 106, with illustrations. Madrid: Javier Morata, 1927.

The purpose of this book is to familiarize Spanish-speaking physicians with the low, cervical cesarean section. The author first reviews the history of the development of the cervical operation and discusses nearly every type of cervical cesarean section both extraperitoneal and intraperitoneal. In addition there is a description accompanied by illustrations of the recent exteriorization operation of Portes, which is a modification of the Gottschalk operation. Not only are the different forms of the operation discussed but also such matters as anesthesia, extraction of the fetus, tamponade of the uterus, sterilization and drainage. Among the indications for the operation the author considers not only contracted pelvis but also placenta praevia, eclampsia, prolapse of the umbilical cord, cervical cancer and transverse presentations. The book is written in a clear and simple style, the type is large and distinct, and the illustrations are instructive. Mention is made of Wetterwald's recent review on rupture of the uterus after the cervical type of cesarean section. Unfortunately, the author has limited his sources of information to German, French and Spanish authorities. Americans, particularly De Lee and Beck, and the English, especially Munro Kerr, have contributed to the improvement of the cervical operation. Regardless of this the book will most likely and properly enhance the popularity of cervical cesarean section among Spanish-speaking physicians.

APPLIED REFRACTION. By Homer Erastus Smith, M.D., Assistant Surgeon, Manhattan Eye, Ear and Throat Hospital, New York City. Cloth. Price, $2.75. Pp. 131, with 9 illustrations. New York: William Wood & Company, 1927.

This is not a compendium nor yet a textbook on refraction but rather the observations gathered through thirty years of experience by a clinical ophthalmologist. It is a chatty, discourseful book written for his brother practitioners.

TIGER TRAILS IN SOUTHERN ASIA. By Richard L. Sutton, M.D., Sc.D., LL.D., Professor of Dermatology, University of Kansas. Cloth. Price, $2.25. Pp. 207, with 115 illustrations. St. Louis: C. V. Mosby Company, 1926.

For the most of us life is a round of drab reality. If we want to be devilish we take an afternoon off for a game of golf or go to a baseball game. The limit of adventure is a week in the woods, where we catch a few small game fish and have our lunches out of skillets and brag about it, more or less, for the rest of the year, or—event of a lifetime—a tourist cruise to the West Indies or to the Mediterranean. Sutton is made of no such Lilliputian stuff. He did all these things when he was young in sport. He has long since exhausted the hunting fields of America. Now, having caught and shot everything of size that is not protected by the game laws in our country, he has in later years sought larger thrills and has picked out for his excursions the out-of-the-way haunts of game of the earth. He is a wise man, or perhaps he has acted wisely in spite of himself; for his great hunting expeditions are evidently in response to an instinctive urge that was irresistible. It has taken him into some rare places, given him some rare experiences for an apparently staid doctor, and enabled him to enjoy adventures that are beyond the dreams of the rest of us, who hunt, instead, the pediculus, the acarus and the microbe. Wise man—and tough—for none other would have had the hardihood to undertake, or the endurance to survive, his hunting trips.

Many of us are familiar with the exceedingly interesting account of his trip to the plateau of British East Africa after lions and elephants and other big game there. Now he has sought even more remote haunts of big game, and in this book records his hunting trip in southeastern Asia. This journey took him into the wilds of French Indo-China after tigers. Incidentally he got all sorts of other dangerous and interesting game, including elephants; but as the elephants there only run about five or six tons they do not excite much interest for him—it takes about a 16 ton elephant, the kind they get in Africa, to give him excitement. Sutton has developed to the point where his hunts, as a matter of course, are successful. This one was so to a notable degree. Anybody going on the same sort of journey can do well to get the advice about how to do it that he gives in this book. The book gives also an exceedingly interesting account of many things pertaining to such a journey. It is interesting as hunting, interesting in its accounts of wild animals, and interesting as travel. The style is good and lively, with none of the braggadocio that is apt to creep into such books. It is not only a book to be recommended to the hunter but it will be highly interesting, as well as valuable, to every doctor, to show him how a man, even in our quiet sort of occupation, can get fun out of life if he tries.

We are glad he went for his own sake and in order that he can tell us about it. We look forward with keen anticipation to his next volume "Trailing the Man-Eating Savages of the Upper Amazon."

CONCERNING ANEURYSMS. The Third Gordon Bell Memorial Lecture Delivered Before the Winnipeg Medical Society, on April 1, 1926. By Oskar Klotz, Professor of Pathology and Bacteriology, University of Toronto. University of Toronto Studies, Pathological Series. Paper. Price, 50 cents. Pp. 74. Toronto: University of Toronto Press, 1926.

In this lecture, Klotz has once more brought together the results of studies of diseases of arteries, a subject in which he has displayed considerable interest for many years. The evolution of our understanding of aneurysm, the history of syphilis and a discriminating consideration of the possibility that its first appearance in Europe was due to importation from America by the sailors with Columbus and other pioneer explorers are presented briefly in an account that is enjoyable reading. There are also excellent descriptions of the various types of arteriosclerosis which should serve the demands of medical students far better than does the treatment given them by the textbooks of pathology that have so far appeared in English. Such descriptions are, moreover, incidental, for the main theme is aneurysms. The English is a little careless in spots; for example, "the syphilitic process upon arteries," and "in consequence to inflammatory processes" (p. 26); "the bacterial mass in the latter instance formed the embolus which is microscopic in size and which occludes . . ." (p. 49). This feature may, however, be concerned solely with the hazards of publication. Aneurysms of the heart and of the leaflets forming the heart valves have no place in this work. The splendid work of Vestberg in 1897 on acute dissecting aneurysms of the heart and the important relation the anatomic structure of the periaortic space of Vestberg bears to such aneurysms are not mentioned. Recent studies of the possible rôle of lymph channels in the spread of syphilis in the aorta and of the mechanical forces concerned with the peculiarities of its location and distribution in the root of the aorta are certainly of great interest, and they merit, perhaps, more notice than they have received in a monograph such as this and so largely a review of literature. Nor are there any comments on what takes place in the intramural channels, or in the walls of branches of the aorta when the aortic wall is split by dissecting aneurysms, where such branches have their origin. The importance of this sequence of dissecting aneurysm of the aorta and the possibility that symptoms of great value for its recognition during life are caused by disturbances of circulation in the regions supplied by such branches are most intimate essentials of this topic. One naturally searches for the numerous personal experiences of the author and cherishes them when they are found. Among these are details of his knowledge of syphilis in Brazil, his search for the parasite of syphilis in diseased aortas, and observations of eleven aneurysms in children under 15 years of age. These are among the important matters that add greatly to the value of this pres-

entation. With the ending of its reading, there comes an earnest desire that from his pupils and the author the medical profession may still be served with the results of additional investigations and studies of the diseases of human arteries.

SURGICAL NURSING AND THE PRINCIPLES OF SURGERY FOR NURSES. By Russell Howard, C.B.E., M.S., F.R.C.S., Surgeon, London Hospital. Fifth edition. Cloth. Price, $3. Pp. 320, with illustrations. New York: Longmans, Green & Company, 1926.

This book is based on lectures to the probationer nurses at the London Hospital. An effort is made to instruct them in the fundamental principles of surgery and in the nursing of surgical patients. There is a rather detailed discussion of such surgical problems as infections, inflammations, wounds, specific infections, hemorrhage, shock, new growths and burns. The operative nursing and care of patients after operations on the various regions of the body are considered, including fractures and the special care of infants. Bandaging and massage, with numerous prescriptions used in the postoperative care of these patients, are added.

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR 1926, with comments that have appeared in THE JOURNAL. Cloth. Price, $1. Pp. 73. Chicago: American Medical Association, 1927.

This volume contains the unabridged Council reports that have been adopted and authorized for publication during 1926. Some of these reports have already been published in THE JOURNAL; others have never been published elsewhere. The book thus makes available the actions of the Council on all products which have been denied admission to New and Nonofficial Remedies or which have been omitted from that book during the year. In addition, the book contains several special reports authorized by the Council in 1926.

Reports are given on the following articles found not acceptable for New and Nonofficial Remedies: Allonal, Animasa, three benzyl benzoate preparations, Ceanothyn, Cresog, Firma Chloro, Idozan, Malt Nutrine, Murarsenide, Naftalan, Neo-Reargon, Nontox, Numoquin, Oleosolution, "Pabst Extract—The 'Best' Tonic," Phenoseptine Cones and Phenoseptine Powder, Pollen Antigen Spring Type-Lederle, Rad-X-Solution A, Rad-X-Solution B, Robes' Antirheumatic Injections, Sodium Methylarsenate (De Marsico), Ster-Alco, Sulcitacium, Tetradol, Thymo-Borine, Toxivi, Toxok and Triophos. Besides these there are a number of reports on articles that have been omitted from N. N. R.

The volume also contains the following special reports of current interest to physicians: a report on the status of bacillus acidophilus and bacillus bulgaricus therapy, on the basis of which the N. N. R. article on Lactic Acid-Producing Organisms has been revised and rewritten; a report dealing with the esteem in which antistreptococcus serum is now held by leading surgeons, gynecologists and obstetricians, prepared by Dr. Emil Novak on the basis of the answers to a questionnaire sent to representative members of these groups; and a preliminary report on the status of the new drug ephedrine.

HANDBUCH DER EXPERIMENTELLEN PHARMAKOLOGIE. Herausgegeben von A. Heffter, und W. Heubner, Professor der Pharmakologie an der Universität Göttingen. III Band. 1 Hälfte—Die osmotischen Wirkungen. Schwer resorbierbare Stoffe, usw., usw. Paper. Price, 57 marks. Pp. 619, with 62 illustrations. Berlin: Julius Springer, 1927.

Any one who has seen and used the previously issued instalments (volumes 1 and 2) of this great work on pharmacology will welcome the present first half of the third volume. The publication of this handbook, begun about fifteen years ago, has encountered a number of misfortunes. The World War broke out just as the first manuscripts were received, so that it was not until 1919 that the first half of the first volume could be published. The recent death of Arthur Heffter, the originator of the ambitious plan, to publish as thorough and systematic a complete exposition as possible of all the work done on experimental pharmacology, was another heavy blow to the enterprise, fortunately met by the election of Wolfgang Heubner to the important position of editor-in-chief. The present instalment includes a presentation of the pharmacology of inorganic substances, excepting the heavy metals, which are to be taken up in the final instalment, to be published shortly.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

PRACTICAL METHODS IN THE DIAGNOSIS AND TREATMENT OF VENEREAL DISEASES FOR MEDICAL PRACTITIONERS AND STUDENTS. By David Lees, D.S.O., M.A., M.B., Surgeon in Charge of Venereal Diseases, The Royal Infirmary, Edinburgh. With an introduction by Wm. Robertson, M.D., F.R.C.P., D.P.H., Medical Officer of Health, Edinburgh. Cloth. Price, $5. Pp. 605, with 87 illustrations. New York: William Wood & Company, 1927.

Brief practical guide to the care of venereal disease.

THE HOME NURSE'S HANDBOOK OF PRACTICAL NURSING. A Manual for Use in Home Nursing Classes in Young Women's Christian Associations, in Schools for Girls and Young Women, and a Working Text-Book for Mothers, "Practical" Nurses, Trained Attendants, and All Who Have the Responsibility of the Home Care of the Sick. By Charlotte A. Aikens, R.N. Fourth edition. Cloth. Price, $2 net. Pp. 326, with illustrations. Philadelphia: W. B. Saunders Company, 1927.

Thousands of details of nursing procedure.

BIRTH INJURIES OF THE CENTRAL NERVOUS SYSTEM. Part I—Cerebral Birth Injuries. By Frank R. Ford, Johns Hopkins Hospital. Part II—Cord Birth Injuries. By Bronson Crothers and Marian C. Putnam, Harvard Medical School. Medicine Monographs Volume XI. Cloth. Price, $4. Pp. 164, with 56 illustrations. Baltimore: Williams & Wilkins Company, 1927.

Monograph showing how wrong traction during forcible delivery produces permanent injury.

THE NORMAL CHEST OF THE ADULT AND THE CHILD, INCLUDING APPLIED ANATOMY, APPLIED PHYSIOLOGY, X-RAY AND PHYSICAL FINDINGS. By J. A. Myers, Associate Professor of Preventive Medicine, Medical and Graduate Schools, University of Minnesota, and Others. With an introduction by Elias P. Lyon. Cloth. Price, $5. Pp. 419, with 141 illustrations. Baltimore: Williams & Wilkins Company, 1927.

Accumulation of fundamental data relating to the normal human chest.

NUTRITION OF MOTHER AND CHILD. By C. Ulysses Moore, M.D., M.Sc., F.A.C.P., Collin's Fellow in Nutritional Research, University of Oregon Medical School. Including Menus and Recipes by Myrtle Josephine Ferguson, B.S., B.S. in H.Ec. Third edition. Cloth. Price, $2. Pp. 236, with 33 illustrations. Philadelphia: J. B. Lippincott Company, 1927.

Simple presentation of elementary facts for infant feeding.

CHEMICAL LABORATORY MANUAL. Prepared to Accompany Bogert's "Fundamentals of Chemistry." A Text-Book for Nurses and Other Students of Applied Science. By L. Jean Bogert, Ph.D., Research Chemist, Obstetrical Department, Henry Ford Hospital. Cloth. Price, $1.50 net. Pp. 142, with 23 illustrations. Philadelphia: W. B. Saunders Company, 1927.

Elementary guide to simple chemical experiments.

THE PATHOLOGICAL FINDINGS IN FOUR AUTOPSIED CASES OF ACROMEGALY, WITH A DISCUSSION OF THEIR SIGNIFICANCE. By Harvey Cushing, and Leo M. Davidoff. Monographs of the Rockefeller Institute for Medical Research. No. 22. Paper, $2. Pp. 131, with 104 illustrations. New York: Rockefeller Institute for Medical Research, 1927.

Monograph concluding that anterior pituitary lobe is key of the endocrine arch.

DIE NEUROSEN DES KINDESALTERS MIT BESONDERER BERÜCKSICHTIGUNG VON LERNSCHWÄCHE UND SCHWERERZIEHBARKEIT. Von Dr. W. Cimbal, Oberarzt am Stadtkrankenhaus in Altona. Paper. Price, 15 marks. Pp. 509, with 24 illustrations. Berlin: Urban & Schwarzenberg, 1927.

Neuroses of children with special reference to the "difficult child."

SPIROCHAETAL JAUNDICE. By G. Buchanan, M.D., Ch.B., D.P.H. Medical Research Council. Special Report Series, No. 113. Paper. Price, 4s net. Pp. 64, with illustrations. London: His Majesty's Stationery Office, 1927.

Complete monographic study with good bibliography of recent investigations of this specific spirochetal disease.

FISH AND SEA FOOD RECIPES COVERING THE ENTIRE INDUSTRY. Boards. Price, 10 cents. Pp. 96. New York: United States Fisheries Association, 1927.

MANAGEMENT OF THE SICK INFANT. By Langley Porter, B.S., M.D., M.R.C.S., Professor of Clinical Pediatrics, University of California Medical School, and William E. Carter, M.D., Instructor in Pediatrics, University of California Medical School. Third edition. Cloth. Price, $8.50. Pp. 726. St. Louis: C. V. Mosby Company, 1927.

New edition with few important revisions.

THE HEART AND ITS DISEASES. A Handbook for Students and Practitioners. By Charles W. Chapman, M.D., M.R.C.P., Consulting Physician to the National Hospital for Diseases of the Heart, London. Cloth. Price, $3.50. Pp. 216, with 52 illustrations. New York: William Wood & Company, 1927.

Outline of care of cardiac disorders.

HYGIENE AND SANITATION. The Essentials of Modern Health Care. By Jesse Feiring Williams, M.D., Professor of Physical Education, Teachers College, Columbia University. Cloth. Price, $2 net. Pp. 344, with 52 illustrations. Philadelphia: W. B. Saunders Company, 1927.

Practical guide to health care of the individual, the city and the nation.

AN INTRODUCTION TO NEUROLOGY. By C. Judson Herrick, Professor of Neurology in the University of Chicago. Fourth edition. Cloth. Price, $2.75 net. Pp. 406, with 140 illustrations. Philadelphia: W. B. Saunders Company, 1927.

New edition of well established guide to neurologic anatomy.

EXPLORATION CLINIQUE ET DIAGNOSTIC CHIRURGICAL. Par Félix Lejars, professeur de clinique chirurgicale à la faculté de médecine de Paris. Second edition. Cloth. Price, 120 francs. Pp. 911, with 1094 illustrations. Paris: Masson & Cie, 1927.

New edition of well known guide to French surgical practice.

TIGER TRAILS IN SOUTHERN ASIA. By Richard L. Sutton, M.D., Sc.D., LL.D., Professor of Dermatology, University of Kansas. Cloth. Price, $2.25. Pp. 207, with 115 illustrations. St. Louis: C. V. Mosby Company, 1926.

Handsome account of a dermatologist's pursuit of unusual skins.

THE WISTAR INSTITUTE BIBLIOGRAPHIC SERVICE. Volume III. Issued by the Wistar Institute of Anatomy and Biology. Paper. Price, $5. Pp. 323. Philadelphia: Wistar Institute, 1927.

References and abstracts of all articles appearing in nine Wistar Institute publications.

AN OUTLINE OF CAREERS. A Practical Guide to Achievement. By Thirty-Eight Eminent Americans. Edited by Edward L. Bernays. Cloth. Price, $5 net. Pp. 431. New York: George H. Doran Company, 1927.

Discussion of requirements, opportunities and pitfalls of various professions.

MODERN METHODS IN NURSING. By Georgiana J. Sanders. Fourth edition. Cloth. Price, $3 net. Pp. 854, with 216 illustrations. Philadelphia: W. B. Saunders Company, 1927.

Elements of nursing knowledge well assembled and thoroughly indexed.

SOCIAL FACTORS IN MEDICAL PROGRESS. By Bernhard J. Stern, Ph.D. Cloth. Price, $2.25. Pp. 136. New York: Columbia University Press, 1927.

Interesting study of factors encouraging and delaying medical progress.

BIOLOGY, GENERAL AND MEDICAL. By Joseph McFarland, M.D., Sc.D., Professor of Pathology in the University of Pennsylvania. Fifth edition. Cloth. Price, $2.50 net. Pp. 475, with 151 illustrations. Philadelphia: W. B. Saunders Company, 1927.

New edition of standard guide to human biology.

NURSES AND NURSING. By Alfred Worcester, A.M., M.D., Professor of Hygiene in Harvard University. Cloth. Price, $2. Pp. 173. Cambridge: Harvard University Press, 1927.

Reprint of idealistic essays on the nursing profession.

THE FIRST ESTATE. By Charles A. L. Reed. Cloth. Price, $2.50. Pp. 530. Boston: Stratford Company, 1927.

Every doctor has one novel in his system—this one is Dr. Reed's.

A TEXT-BOOK OF MEDICINE. By American Authors. Edited by Russell L. Cecil, A.B., M.D., Assistant Professor of Clinical Medicine in Cornell University, and Foster Kennedy, M.D., F.R.S.E., Professor of Neurology in Cornell University. Cloth. Price, $9 net. Pp. 1500, with 29 illustrations. Philadelphia: W. B. Saunders Company, 1927.

Miscellany

HOSPITAL SERVICE IN DENMARK

The whole public health movement in Denmark has been centered around the practice of medicine and particularly around the hospital service. So far as the writer is aware [says Thomas Parran, Jr., *Pub. Health Rep.*, May 27] there is no country in which the hospital service has been more fully developed, whether viewed from the standpoint of type of buildings and equipment, quality of the service rendered to the average citizen, extent to which hospitals are used, or cost of the service to the patient. Practically all the general hospitals in Denmark are public institutions constructed by the municipalities or counties, or jointly by the two. The hospitals are well distributed over the country. Practically all of them are general hospitals in the truest sense, having special wards or buildings for the diagnosis or treatment of tuberculosis, for the treatment of epidemic and venereal diseases, and for the temporary hospitalization of mental cases. The closed staff principle is universal, and the hospital physicians live on the hospital grounds. When a case is sent to a hospital, the attending physician loses all responsibility for the patient. The municipal hospitals are under the direction of a special branch of the municipal government; those operated jointly by a city or county are jointly administered. The director, i. e., the head physician (or physicians) is usually employed on a part-time basis, being allowed to supplement his salary by private consultations at the hospital. An opportunity was afforded the writer to visit a number of the hospitals. One of the most interesting was the state hospital in Copenhagen, operated by the department of education primarily as a teaching center for the university medical school. The director of each department is ex officio professor in the university. This institution has accommodations for 1,000 patients; it was completed in 1910 at a cost of $2,000 per bed. Fifty-three per cent of the patients pay only 50 cents a day, and 20 per cent of them pay nothing. The operating cost is about $3.50 per patient daily, of which 16 per cent is paid by patient's fees. The training school for midwives is operated as a part of this hospital, and there is a large nursing school. The city of Copenhagen expends nearly $4,000,000 a year for its general, tuberculosis and insane hospital services, representing an annual per capita expenditure of approximately $6. The average cost per patient daily is slightly over $3, and this average cost seems to prevail generally throughout the country. The cost of hospital construction in Denmark is nearly as high as that in the United States. The buildings are of a very permanent nature and are well equipped as regards furniture, laboratory, roentgen-ray, hydrotherapy, heliotherapy, and physical therapy departments. Private rooms comprise only 10 per cent of the whole hospital capacity, the favorite arrangement being a system of four or six bed wards, in which adequate floor and air space is provided. Every county has one or more large central hospitals and several smaller ones. In all there are 175 general hospitals with more than 14,000 beds, or 4.5 beds per thousand inhabitants. This compares with 2.6 general hospital beds per thousand in the United States. The number of patient days amounts to 4,300,000, or 1.4 days in general hospitals for every inhabitant annually, as compared with 0.61 patient days in the United States. In comparing the hospital facilities of Denmark and this country it should be noted that Denmark has 4.5 and the United States 2.6 general hospital beds per thousand inhabitants, and that in Denmark these beds are 87 per cent and in the United States 67 per cent occupied. The number of beds per capita for mental and nervous cases is approximately the same in the two countries. The number of beds for tuberculosis cases in Denmark is 1.1 per thousand inhabitants, and in the United States 0.44. The number of beds in all types of hospitals is for Denmark 8.5 per thousand inhabitants, and for the United States 7.1. The figure for the United States, however, includes 1.0 bed per thousand in institutions, such as old age homes, while this class of hospital bed is not included in the Danish statistics.

Medicolegal

Application of Privileged Communications Statute

(New Orleans & N. E. R. Co. v. Jackson (Miss.), 110 So. R. 586)

The Supreme Court of Mississippi, division B, says that two trials were had of this action brought under the federal employers' liability act to recover damages for personal injuries. On the last trial the only question to be determined by the jury was the extent of plaintiff Jackson's injuries and the amount of damages he was entitled to for such injuries. Three physicians examined him to ascertain the extent of his injuries. Two of them were introduced as witnesses in his behalf. The other physician was offered by the defendant railroad company as a witness, but, on objection of the plaintiff, was not permitted by the court to testify. His testimony was material. If allowed by the court, it would have tended strongly to show that the plaintiff was not injured to the extent claimed by him and to the extent testified to by the two physicians who were permitted by the court to testify in his behalf. The privileged communications statute of Mississippi (section 3695, code of 1906) provides, in substance, that all communications made to a physician or surgeon by a patient under his charge, or by one seeking professional advice, shall be privileged, and such physician or surgeon shall not be required to disclose them in any legal proceeding, except at the instance of the patient. The defendant contended that the statute, as applied in this case, had the effect of being more than a mere rule of evidence; that it affected the substantial rights of the defendant; that it denied the defendant a hearing of its cause on its merits; that, so applied, the defendant was denied a right to which it was entitled under the federal employers' liability act and the applicable principles of the common law as interpreted by the federal courts. But, as this court views it, the privileged communications statute did not affect the substantive rights and obligations of the parties. It is a statute affecting alone the competence of certain witnesses, is a mere rule of evidence, and so is applicable in an action under the federal employers' liability act.

Action for Malpractice Barred by Defense to Bill

(Leslie v. Mollica (Mich.), 211 N. W. R. 267)

The Supreme Court of Michigan, in affirming a judgment for the defendant physician in this action to recover damages for alleged malpractice in treating the plaintiff's fractured arm, says that the judgment affirmed was rendered for the defendant on the ground that the plaintiff, when sued in a justice's court by the physician for medical services, made malpractice a defense and thereby defeated the physician's action for services. When this action for malpractice was instituted the defendant contended that the plaintiff's use in the justice's court of his claim for malpractice exhausted his remedy for such injury, and it could not be made the basis of this action, while the plaintiff contended that section 12765 of the compiled laws of Michigan of 1915 sustained his right to plead malpractice by the defendant in defense of the suit in the justice's court, and on defeat of the defendant's action there for services, to bring this action for malpractice. The statute mentioned provides that:

> If any person professing or holding himself out to be a physician or surgeon shall be guilty of any malpractice, an action on the case may be maintained against such person so professing, and the rules of common law, applicable to such actions against licensed physicians and surgeons, shall be applicable to such actions on the case; and such malpractice may be given in evidence, in bar of any action for services rendered by such person so professing.

The purpose of this statute is apparent; it is aimed at empirics, and holds all such to the same accountability for malpractice as licensed physicians and surgeons. This statute does not change, or attempt to change or enlarge, the common-law accountability of physicians and surgeons for malpractice. An examination of the legislative history of the statute discloses that, from its inception in 1838, it was intended to apply to any person not licensed as a physician or surgeon but professing or holding himself out to be a physician or surgeon. The defendant in the instant case was a licensed physician and surgeon, and the statute mentioned had nothing to do with the case.

The suit in the justice's court, by the physician for his services, did not draw in issue, by its own force, the patient's independent cause of action for malpractice. It was optional with the patient to make malpractice of the physician an issue in that suit, either to defeat recovery for services or to have damages awarded by way of recoupment or counterclaim, but this involved the hazard of losing all other remedy. It is true that respectable authority is found holding that a recovery for services by the physician bars an action for malpractice by the patient, and, in jurisdictions where such rule prevails, the patient, when sued, is in quite a dilemma, for, if he does not defeat the action for services, the judgment for services is res judicata (an adjudication) that there was no malpractice. Few cases, however, adopt such rule. In some jurisdictions the rule only applies in case the patient appears and defends. The better view, this court thinks, is that the actions, one by the physician for service and the other by the patient for malpractice, are independent and remain so unless and until the patient, when sued for services, injects the issue of malpractice, either to defeat the claim or to obtain damages by way of recoupment or counter claim. The plaintiff's action for malpractice was indivisible, could not be split, and was employed in the justice's court as an affirmative defense and later as a foundation for this action.

This court does not adopt the rule requiring the patient to make the defense of malpractice in the justice's court when sued by the physician for services. He may do so, however. This court is committed to the doctrine that an independent right of action in behalf of one sued may be put in issue or withheld at the option of the defendant. But the plaintiff, although not required to make the defense of malpractice in the suit in the justice's court, elected to do so, and thereby visited on himself the legal consequences resulting. The record did not disclose whether damages for malpractice were sought in the suit in the justice's court; but that was immaterial, as it was manifest that malpractice by the physician was alleged and employed as an affirmative defense, and defeated the physician's claim for services. This court is constrained to hold that the plaintiff's use of his right of action for malpractice in defense of the defendant's claim for services in the suit in the justice's court barred this action.

Permissible Exclusion from Practicing in Hospital

(Hayman v. City of Galveston et al. (U. S.), 47 Sup. Ct. R. 363)

The Supreme Court of the United States, in affirming a judgment dismissing appellant Hayman's bill in which he asked for an injunction against the enforcement of any rule or regulation excluding him or other osteopathic physicians from practicing their profession in the John Sealy Hospital, maintained by the city of Galveston, and denying admission to patients who wished to be treated by him or other osteopathic physicians, says that the bill alleged that the state of Texas, acting through the board of regents of the state university, had leased to the city the land on which it was maintaining the hospital. The lease stated that the state reserved the right of use of the operating amphitheater, the wards and grounds of the hospital by the faculty of the medical department of the state university, for purposes of clinical instruction of students attending the university in Galveston, and reserved also the right for such purposes to control the treatment of all charity patients.

The appellant argued that the state constitution and laws conferred on him the asserted right which was infringed by the action of the hospital board. But if it be assumed that the question presented was the same as though the state legislature had enacted the regulation adopted by the hospital board, the appellant failed to suggest, and the supreme court fails to perceive, any substantial basis for asserting that rights guaranteed to him by the fourteenth amendment to the constitution of the United States had been infringed. The only protection claimed here was that of the appellant's

privilege to practice his calling. However extensive that protection might be in other situations, it cannot, the supreme court thinks, be said that all licensed physicians have a constitutional right to practice their profession in a hospital maintained by a state or a political subdivision, the use of which is reserved for purposes of medical instruction. It is not incumbent on the state to maintain a hospital for the private practice of medicine.

But it was argued that, if some physicians were admitted to practice in the hospital, all must be, or there is a denial of the equal protection of the laws. Even assuming that the arbitrary exclusion of some physicians would have that legal consequence in the circumstances of this case, the selection complained of was based on a classification not arbitrary or unreasonable on its face. Under the Texas constitution and statutes any one who shall "offer to treat any disease or disorder, mental or physical, or any physical deformity or injury by any system or method, or to effect cures thereof" is a physician and may be admitted to practice within the state. This court cannot say that a regulation excluding from the conduct of a hospital the devotees of some of the numerous systems or methods of treating diseases authorized to practice in Texas is unreasonable or arbitrary. In the management of a hospital, quite apart from its use for educational purposes, some choice in methods of treatment would seem inevitable, and a selection based on a classification having some basis in the exercise of the judgment of the state board whose action is challenged is not a denial of the equal protection of the laws.

The validity of the action of the board under the Texas constitution was also before the court. Article 16, section 31, of the Texas constitution provides that:

> The legislature may pass laws prescribing the qualifications of practitioners of medicine in this state, and to punish persons for malpractice, but no preference shall ever be given by law to any schools of medicine.

The limitation of the provision is obviously directed to the qualifications of those to be admitted to the practice of their profession in the state, and has nothing to do with the qualifications of those who are to be allowed to practice in a state hospital or to participate in an educational enterprise conducted by the state. The action of the board of managers of the hospital, which it was alleged had made regulations excluding the appellant and other licensed osteopathic physicians from practicing in the hospital and excluding patients who desired to be treated by the appellant or other osteopaths, did not violate rights or immunities guaranteed by either the state or the federal constitution.

Physician Not Liable for Labor Pains

(Adkins v. May (Ky.), 288 S. W. R. 735)

The Court of Appeals of Kentucky, in reversing a judgment for $200 damages that was rendered in favor of the plaintiff, Mrs. May, for alleged malpractice, says that it appeared that when the defendant was called he went to the plaintiff's home with a trained nurse. He found that the plaintiff had had an incomplete miscarriage, and that there was a considerable hemorrhage. Being unable to remove the remainder of the fetus, he packed the womb with gauze in order to stay the hemorrhage and bring on labor pains, telling the plaintiff and those at her bedside to leave the packing there and he would return. The patient and a woman with her said that the defendant told her that the child was born and that she was all right, while he denied that he made such statement. All the physicians who testified in the case said that the method of treatment adopted was proper. After the defendant left, the plaintiff's labor pains came on sooner than was expected, and the remainder of the fetus came out. The plaintiff's husband said that he would get another physician. While going for one, he met the defendant, told him of the situation, and the defendant said that he would go to the plaintiff's home. Thereupon the husband said that he was going to get another physician.

There was no evidence that the method of treatment was improper, although there was some evidence to the effect that if a physician had been present when the labor pains came on he might have lessened the plaintiff's suffering. But the physicians all agreed that in the circumstances it was not improper for the defendant to leave for a short period of time to go to his office, where he could readily be reached in case of emergency. That being true, the plaintiff's case turned on whether the defendant's alleged statement that the child had been born was actionable negligence. As the defendant packed the womb for the purpose of bringing on labor pains and causing the fetus to be discharged, it was highly improbable that he stated that the child had been born; but, assuming, as this court must in view of the evidence, that this statement was made, the question was, was it such negligence as to authorize a recovery? The plaintiff's insistence was that if she had known that the child had not been born she would have secured the services of another physician, but whether in view of the fact that she already had a physician employed she would or could have secured the services of another physician in time to lessen her suffering was a matter of pure speculation. In other words, the case was one in which it was so highly probable that the plaintiff would have undergone the same labor pains had the alleged false statement not been made, and so highly improbable that the alleged false statement added to or contributed to her suffering in any way as to make the question a matter of guess work, and therefore such as should not have been submitted to the jury. It followed that the defendant's motion for a peremptory instruction should have been sustained.

Inference from Not Calling Physicians as Witnesses

(Nelson et al. v. Public Service Trans. Co. et al (N. J.), 135 Atl. R. 467)

The Supreme Court of New Jersey says that this action was instituted by Mrs. Nelson and her husband to recover damages arising from an injury alleged to have been received by her when a passenger in a bus of the company. After the accident she was treated by two physicians. She complained of an injury to her arm, which prevented her from keeping boarders. So far as damages were concerned, the plaintiffs relied on their own testimony. The two physicians were not called by them as witnesses. The defendants called two physicians, who testified that they had examined Mrs. Nelson. One of them testified that his examination was made eleven or twelve days after the accident, and the only objective condition she had was a slight discoloration of the right arm. The other symptoms were subjective. The other physician made his examination between six and seven months after the accident, and testified that he did not find anything to indicate any physical injury or any organic or nervous condition. The jury returned a verdict in favor of Mrs. Nelson for $75 and for Mr. Nelson of $25. The court cannot say that the amounts of the verdicts were not supported by the testimony, or that they showed any passion or prejudice on the part of the jury against the plaintiffs. The plaintiffs did not call the physicians who had attended Mrs. Nelson immediately after the accident. The jury had the right to infer that they were not called because, if called, they would not testify favorably to the plaintiffs on the subject of Mrs. Nelson's injury.

Privilege Not Waived by Introducing Proofs of Death

(Acee v. Metropolitan Life Ins. Co. (N. Y.), 219 N. Y. Supp. 152)

The Supreme Court of New York, appellate division, fourth department, says that at the trial of this action to recover on a life insurance policy the defendant was permitted to introduce the testimony of physicians who had attended the insured. They testified that she was suffering from heart and kidney disease long before and at the time the policy was issued. The testimony was received over the objection of the plaintiff that it was incompetent, and that the witnesses were incompetent under section 352 of the civil practice act of the state, which provides that a physician "shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity." That the testimony was improperly received, unless the statutory provision was waived, is established beyond question. But it was urged that the plaintiff had waived the provisions of section 352 and made the testimony competent by introducing in evidence the proofs of death which were served on the defendant, particu-

larly in view of the fact that the policy contained a provision that "proof of death shall be evidence of the facts therein stated in behalf of, but not against the company." The policy also provided that "proofs of death shall be made on blanks to be furnished by the company and shall contain answers to each question propounded to the claimant, physicians and other persons." The attending physician answered the questions on the printed form, and the plaintiff, in establishing his case, introduced the proofs of death in evidence. The defendant insisted that the introduction of the proofs of death in evidence opened the door for it to call other physicians to testify to what they discovered while treating the insured in a professional capacity, but the court holds otherwise—that the introduction of the proofs of death did not have the effect of waiving the privilege. Under section 836 of the code of civil procedure, as amended in 1891, and section 354 of the civil practice act, the only one who can waive the privilege is the personal representative, and it can only be waived on the trial when the evidence is offered.

Validity of Will of Person Mentally Weak—Insanity

(In re Sexton's Estate (Calif.), 251 Pac. R. 778)

The Supreme Court of California, in reversing an order which granted a new trial after a verdict upholding the will contested in this case, says that this was a case of a loss of mental power; not one of an irregular working of the mental faculties, but of a ceasing to work with normal strength. It was the contestant's theory at the trial that the mental processes of the testatrix were so benumbed by paralytic strokes that her mind was not strong and clear enough to make a valid disposition of her property by will. A careful consideration of the testimony of the contestant's witnesses left in the mind the composite mental picture of a woman 61 years of age at the date of the execution of the will, grown old before her time, feeble in body, mentally weak, and given to an habitual quiescence and a torpor peculiar to those who have suffered from cerebral hemorrhage. While a survey of all the facts might warrant a diversity of opinion as to the exact state of her mind and the precise degree of mental capacity retained by her, it was evident that there was not such a complete prostration or alienation of intellect as to incapacitate her from making a testamentary disposition of her property. According to the testimony of the proponents' witnesses, uncontradicted by any direct evidence to the contrary, the plan of the will was the product of the testatrix's own mind, uninfluenced by the advice or dictation of any other. The mind that so planned must have had testamentary capacity.

A testator is of sound and disposing mind and memory if, at the time of making his will, he has sufficient mental capacity to be able to understand the nature of the act he is doing, to understand and recollect the nature and situation of his property, and to remember and understand his relations to the persons who have claims on his bounty and whose interests are affected by the provisions of the instrument. The actual mental condition of the testator at the time of the execution of the will is the question to be determined. Evidence as to mental condition before and after the execution of the will may be relevant and admissible, but it is important only so far as it tends to show mental condition at the time of executing the testamentary document. That is to say, facts as to mental condition, whether anterior or subsequent to the date of the execution, depend for their probative force on the clearness and certainty with which they tend to demonstrate the condition of mind and memory at the moment the will was executed. Evidence of mental condition before or after the execution of the will, if it has evidentiary force, i. e., if there exists a reasonable and logical relation between it and the issue as to mental competence at the moment of execution, is to be given such weight as the jury thinks it deserves.

"Insanity" is a broad, comprehensive and generic term of ambiguous import. In a medical sense, it is used to denote any unsound and deranged conditions of the mind, and every degree of mental unsoundness, whatever may be its source or cause. But mere proof of mental derangement, or of insanity in a medical sense, is not sufficient to invalidate a will. Not every degree of mental unsoundness or mental weakness will suffice to destroy testamentary capacity. The contestant is required to go further than that. He must either show such a complete mental derangement as denotes utter incapacity to know and to understand those things which a testator must be able to know and to understand in order to possess testamentary capacity, or he must show the existence of a specific insane delusion which affected the making of the will in question. In other words, mental derangement sufficient to invalidate a will must be an unsoundness of mind in one of two forms: (1) mental unsoundness of such broad character as to establish incompetence generally, or (2) some specific and narrower form of insanity under which the testator is the victim of some hallucination or delusion. And, even in the latter class of cases, it is not sufficient merely to establish that the testator was the victim of some hallucination or delusion; it must be shown that the will was the offspring of the hallucination or delusion.

Testamentary capacity is always presumed to exist until the contrary is established. Ability to transact important business, or even ordinary business, is not the legal standard of testamentary capacity. A person who has mental power to understand and to transact the ordinary business affairs of life, doubtless, has capacity to make a valid will. But the converse is not necessarily true. Mental perception and power to think and reason of a lesser degree than that which is required in the understanding and transaction of ordinary business may be all that is requisite to the full understanding of everything involved in the execution of a will.

The Family Physician—Admissibility of Testimony

(Turner v. Stoker (Texas), 289 S. W. R. 190)

The Court of Civil Appeals of Texas, in reversing a judgment for $1,250 damages rendered in favor of plaintiff Stoker for alleged malpractice by the defendant, says that it does not understand that in order for a physician to testify as an expert in a malpractice case it is necessary for him to practice or live in the same community as the defendant, but if the witness is qualified to testify as to the practice in the same or similar communities he is qualified to give an expert opinion. As this court views it, a physician may practice his profession in some one of the larger cities of the state and yet be sufficiently familiar and acquainted with the practice of the profession in the villages to qualify him to testify. If the rule went so far as to require that a physician before being permitted to testify must practice in similar communities, the complaining party in an action for malpractice might be absolutely helpless. Of course, the court understands that the physician practicing in a village and in small communities does not have the opportunities and resources to give the same treatment and diagnosis as what may be called the city physician. The village physician must observe his patient by candle and lamp light; he does not have the advantage of the roentgen ray and other instrumentalities that are afforded in the great cities with sanatoriums; and of course the same treatment and degree of care would not be applied to a physician practicing in such a community as to one practicing in a city.

The family physician is one of the most confidential persons the public has to deal with. His responsibility is that of one of the greatest of professions. When we are sick or injured, we place our life in his hands, and his advice and treatment may mean life or death. It is quite natural that he should be required to exercise that degree of skill, learning and care which are ordinarily possessed and exercised by other such members of his profession in good standing practicing in similar communities and under like or similar circumstances. He is not chargeable with negligence or failure to use his best skill and ability, but only that care and skill exercised generally by physicians in the same or similar communities. The physician is not an insurer and does not warrant a cure, but he impliedly contracts that he possesses, and he is required to exercise, that degree of skill and care which physicians practicing in similar locations ordinarily possess. He does not impliedly warrant a cure, and can be held as a guarantor only by virtue of an express agreement.

The testimony showed that the defendant was called after an accident to attend the plaintiff; that the only thing he

prescribed was "mentholatum and let nature take its course." He assured the plaintiff that there were no broken bones, and when the plaintiff paid $50 for his services, admitted that the jaw was broken. While the defendant was not bound to diagnose carefully, or know, that which could not be seen, for many of our ailments are hidden, yet the fact that he did not advise a roentgenogram, did not discover the broken jawbone, and was guilty of other failures as detailed by the witness was sufficient for the jury to conclude that he was negligent. There is no profession that has advanced further than the medical. Too much cannot be said of the wonderful achievement of medical science. The advance in the treatment and cure of ailments seems also miraculous. It is no wonder, then, the confidence and faith of a people in the physician, and it is but reasonable that they should receive that treatment afforded in the same or like communities.

This court does not understand that the law of Texas recognizes or makes any distinction between physicians admitted and licensed to practice the profession in Texas, as a test of qualification to testify as experts.

But the trial court's omission from its charge on proximate cause of the doctrine "that foreseeableness or anticipating of injury is a necessary element of proximate cause" was such a fatal omission as required a reversal of this cause, which was therefore reversed and remanded. In *T. & P. R. Co.* v. *Bingham*, 90 Texas 223, 38 S. W. 162, the Supreme Court of Texas quoted the following as a correct statement of the doctrine:

> In order to warrant a finding that negligence or an act not amounting to wanton wrong is the proximate cause of an injury, it must appear that the injury was the natural and probable consequence of the negligence or wrongful act, and that it ought to have been foreseen in the light of the attending circumstances.

Truth-Telling Serum Claptrap

(State v. Hudson (Mo.), 289 S. W. R. 920)

The Supreme Court of Missouri, division 2, in affirming a conviction of the defendant, a negro, of rape on an elderly white woman, says that it was sought to introduce in evidence the deposition of a "doctor" residing elsewhere, who testified to the effect that he had administered to the defendant what he termed a "truth-telling serum," and that while under its influence the defendant had denied his guilt. Testimony of this character—barring the sufficient fact that it cannot be otherwise classified than as a self-serving declaration—is, in the present state of human knowledge, unworthy of serious consideration. This court was not told from what well this serum was drawn or in what alembic its alleged truth-compelling powers were distilled. Its origin was as nebulous as its effect was uncertain. A belief in its potency, if it has any existence, Is confined to the modern Cagliostros, who still, as Balsamo did of old, cozen the credulous for a quid pro quo, by inducing them to believe in the magic powers of philters, potions, and cures by faith. The trial court therefore, whether it assigned a reason for its action or not, ruled correctly in excluding this claptrap from the consideration of the jury. Cogent reasons based on numerous rulings bear ample testimony to support the wisdom of the court's ruling.

Right to Call Investigating Physician as Witness

(Osborn v. City of Seattle (Wash.), 252 Pac. R. 164)

The Supreme Court of Washington says that three actions which arose out of a collision between an automobile and a street car owned and operated by the defendant were consolidated for trial. The defendant through its claim department caused a physician to examine the injured plaintiffs and make a report thereof. This examination was made with the consent of the persons examined. On the trial the plaintiffs called the physician for the purpose of having him testify as to the examinations he had made. The defendant contended that these examinations were a part of the investigation of the claim and of the preparation for the trial of the case, and the information obtained was confidential. But no case was cited, and this court does not know of any authority which would sustain a holding that a person who voluntarily submits to an examination by a physician, even though the examination was made at the instance of the adverse party, may not call that physician as a witness on the trial and interrogate him relative to the examination. This case was entirely different from that of seeking by interrogatories to get possession of the report which the physician may have made to the person employing him. When the plaintiffs voluntarily submitted to the examination, it naturally would be on the implied assumption that they might call the physician as a witness on the trial if they saw fit to do so. To suppress such evidence in many cases would keep out of the trial facts which the court or the jury should know in order that a just determination of the cause might be had. Reason at least supported the right of the plaintiffs to call the physician in the present case and take his testimony relative to the examinations which he made.

Society Proceedings

COMING MEETINGS

Colorado State Medical Society, Glenwood Springs, September 6-8. Dr. F. B. Stephenson, Metropolitan Building, Denver, Secretary.
Idaho State Medical Association, Twin Falls, August 29-31. Dr. J. N. Davis, Kimberly, Secretary.
Oregon State Medical Society, Salem, September 1-3. Dr. F. D. Stricker, Medical Arts Building, Portland, Secretary.
Washington State Medical Association, Tacoma, August 29-31. Dr. C. H. Thomson, 508 Cobb Building, Seattle, Secretary.

MEDICAL ASSOCIATION OF GEORGIA

Seventy-Eighth Annual Meeting, held at Athens, May 10-13, 1927

The President, DR. V. O. HARVARD, Arabi, in the Chair

The Newer Psychology in Its Practical Application to General Medicine

DR. W. W. YOUNG, Atlanta: If we conceive of the "mind" as an expression of the entire organism, psychology has a very definite message to the man of medicine. First, it is the pediatrician or the family physician who comes in contact with the child and the young mother. It is their advice which is sought in all emergencies. It is within their scope to inculcate right principles of habit formation both in the emotional and in the psychic levels and thus prevent the growth of an organism poorly adapted to meet the stresses of life. It is also within the province of the family physician to eradicate sources of irritation to the autonomic and cortical systems. But, above all, the supreme note of caution should be sounded in the handling of the convalescent. In acute disorders, especially the acute infections, the sympathetic is in a state of constant activity, so that in the period of convalescence an autonomic imbalance with consequent emotional instability is to be expected. This means that emotional situations may have a more pronounced and perhaps disastrous effect on such an individual than ordinary. Incapacity for motor response with proper metabolism of the products of sympathetic physiologic response gives rise to by-products which are toxic. Therefore such a patient should be relieved of all stimuli that might so upset him. Odors, noises, apparently insignificant events may be the source of irritation and may be a tremendous factor in retarding recovery. Of course, major emotional stimulation may have a very pronounced result. The surgeon, too, may find sources or difficulty in improperly balanced individuals. The approach to a major operation should be fraught with as little emotional atmosphere as possible, if the best results are to be obtained. The convalescence should be guarded as carefully as in the case of an acute infection. Any individual who is sick has a fundamentally abnormal adaptive system and hence must have environmental factors controlled. The biologic conception shows us that the "mind" is not some mystical entity which may be dissected and controlled separate from the physical but is indivisible from the organic make-up of the individual: a dynamic expression of the organism's contacts. From this conception every man in the practice of medicine may draw lessons for his guidance in handling his every-day clientele.

Dried Yeast Therapy in Certain Psychoses

DR. H. D. ALLEN, Milledgeville: Certain psychoses show marked improvement with increased body weight or improved nutrition, especially the toxic exhaustion types, whether from endogenous or from exogenous toxic causes. Skin eruptions characteristic of pellagra were apparently healed in three cases concomitant to an improvement in nutrition as recognized by prompt increase in body weight. Improvement in the mental state in these three cases was also noted. The improvement in nutrition in the ten cases reported here was very prompt and coincident to the addition of dried yeast (brewers') to the diet of these patients. The value of dried yeast as an addition to the food mixture for nasal tube feeding is suggested. Three cases of pellagra are presented as additional confirmation of the claims of a specific value of dried yeast in this disease.

Popular and Professional Misconceptions Regarding Malaria

DR. M. A. FORT, Atlanta: Numerous people have told me about catching malaria from eating fish caught in stagnant ponds, chewing sugar cane, drinking bad water, eating rotten ended watermelons, green scum or drying up of ponds, night air, flies, etc. Some prominent physicians have assured me that mosquitoes raised in the vines about their porches cause it. I was asked to make an agricultural college quit raising cow peas because they bred mosquitoes. I have heard physicians advise their patients to put down deep wells, as the water from shallow wells produced malaria. Malaria is not caused by bad water, air or food. Nothing causes malaria but an animal being, having as definite a mode of existence as a boll weevil. This parasite is put in by a mosquito and by nothing else. It lives in only two places in the world: in the human blood and in the mosquito. It dies immediately if placed in water, so it cannot enter in the drinking water. It cannot live in any food, so it cannot be eaten. It cannot live in air, so it cannot be breathed in. One can get it only when an infected mosquito inserts her bill and spits. The only mosquito that can carry this parasite is the anophelene, and the only variety of anophelene to be feared in Georgia is *Anopheles quadrimaculatus*. The Quads develop only in ponds and not in running streams, tin cans, barrels, tubs, septic tanks, wells or other holes dug in the earth, as the borrow pits made in road building. The clean-up campaigns for removing cans and trash are good for comfort, but they have no influence in preventing malaria. The Quad prefers water in a limestone country, and the limestone areas and the malaria areas of the state are the same. A mosquito must be over 10 days old before she can transmit malaria. This is the basis of LePrince's excellent method of preventing malaria by destroying all the mosquitoes in the house daily. Malaria is not transmitted in the winter in Georgia, but the parasite lives in the blood of uncured persons all winter. If fever appears in a house in which Quad mosquitoes can be found hiding in the dark places in the daytime, or if the larvae of the Quad mosquito can be found in nearby ponds, it is strong presumptive evidence of malaria. If, in addition, there is a history of other cases of malaria and the presence of an enlarged spleen, the diagnosis is wellnigh absolute. When a stained blood smear is examined and the characteristic parasites are found we have one of the most satisfactory and absolute diagnoses known to medicine. If we depend on the microscope alone we shall miss malaria more than 90 per cent of the time.

Reducing Obstetric Mortality

DR. LEWIS H. WRIGHT, Augusta: There are three main factors concerning the successful handling of an obstetric case: (1) faithful, thoughtful, intelligent prenatal care; (2) proper management during labor, and (3) careful postnatal care and follow-up. Not one of these factors may be neglected.

Banana Diet in the Treatment of Chronic Intestinal Indigestion in Children

DR. JOSEPH YAMPOLSKY, Atlanta: Bananas, when ripe, are very digestible. They were used in conjunction with protein milk and a regular course of intestinal elimination in three cases of severe celiac disease. The patients gained in weight and after two years of observation are apparently well.

Starvation Diet Versus Feeding in the Treatment of Summer Diarrheas

DR. W. A. MULHERIN, Augusta: The modern idea in the treatment of ileocolitis is the same in principle as the treatment of typhoid—support the baby's vital force with food of sufficient strength to be of some real value, until the infection has run its course. Treat symptoms as they arise, giving medicine only if there is a direct indication for it. Give plenty of water to drink; if necessary, force it, or give it artificially, in order to keep the tissues and organs of the body functioning in a normal manner, thereby preventing metabolic disturbances that frequently claim the life of the little patient.

Pigment Metabolism in the New-Born

DR. M. HINES ROBERTS, Atlanta: Serum and spinal fluid of new-born infants contain protein-bound bilirubin, as shown by the indirect van den Bergh reaction, and hence the bilirubinemia is of the hemolytic type. The normal pigment concentration ratio of serum to spinal fluid is greater than 100:1. A serospinal fluid pigment ratio that is less than 50:1 indicates the presence of blood in the spinal fluid at some time. The threshold of clinical jaundice in the newborn is higher than that for the adult, apparently well above an icterus index of 40.

Zinc Stearate Poisoning

DR. L. H. GOLDSMITH, Atlanta: Zinc stearate dusting powder has been used extensively as a substitute for talcum powder, although it has no advantage therapeutically and is more dangerous. The inhalation by infants has resulted in twenty-eight deaths (21 per cent) in 131 cases reported. One 3 months old infant died within one hour. Its use should be discouraged and mothers should be warned of its dangers by the medical profession.

Diagnosis of Syphilitic Bone Lesions

DR. JAMES J. CLARK, Atlanta: The ease and accessibility of roentgen-ray examination make possible a safe and simple method of early, and often positive, discovery of this infection. This is particularly true in children, in whom frequently the factor of a possible hereditary infection is lost sight of and considerable time lost and expense incurred while attempting to treat the child for some other infection, when a careful survey of the osseous system will readily give a correct diagnosis and permit of proper treatment. In any case of bone infection of chronic nature, the addition of antisyphilitic treatment to other therapeutic and dietary measures is certainly to be recommended. The physician will many times be surprised and delighted at the prompt response the patient will show to this form of therapy.

Treatment of Superficial Malignant Lesions by Combined Methods

DR. J. W. LANDHAM, Atlanta: The best results will not be obtained in the treatment of malignant growths without resorting to a combination of methods. Frequently it is necessary to use all the available methods in order to accomplish a cure. All the lesions of the larynx, lip, tonsil, mouth, penis and pigmented lesions in my series have been treated by a combination of diathermy and irradiation. Mortality statistics of this series of malignancies were: face, 6⅔ per cent; lip, 16⅔ per cent; nose, 3½ per cent; pharynx, 66⅔ per cent; antrum, 33⅓ per cent; tongue, 66⅔ per cent; penis, 50 per cent; and mouth, 30 per cent. Good cosmetic results were obtained in all the other cases in this series. Much remains to be accomplished in the education of the public in reference to malignancy. This should be pushed relentlessly. Prophylactic measures should be in the minds of physicians at all times, and the patient should be advised accordingly. Biopsies are condemned. It is safer to overtreat superficial malignant tumors than to run the risk of undertreating them in an effort to obtain good cosmetic results.

The Necessity of Pyelograms in Urologic Diagnosis

DR. WALLACE L. BAZEMORE, Macon: The use of ordinary antiseptics without an attempt at localization of urinary infections is to be condemned. Urography is not without its dangers, and its routine employment is not advised. It should be used only when the clinical diagnosis cannot be made without it. Urography is contraindicated when the patient is of advanced age or greatly emaciated, in cases of advanced bilateral renal disease, and when it is apparent that surgical treatment will not be of benefit.

Injection of Uterus and Fallopian Tubes with Iodized Oil as Aid in Diagnosis

DRS. E. H. GREENE and ROBERT C. PENDERGRASS, Atlanta: We have used this procedure in about fifty cases and in none have we seen any evidence of reaction or untoward effect, either immediately or subsequently. There is a suggestion of some therapeutic value to the injection, as three or four of the patients with chronic salpingitis have reported a noticeable improvement; i. e., feeling better, marked decrease of the leukorrheal discharge, and gain in weight.

Etiology of Urinary Infections

DR. EARL H. FLOYD, Atlanta: The determining factors in the etiology of these infections are: (1) the type of infection; (2) the manner in which it invades the urinary tract; (3) the sources, and (4) the condition of the tract that predisposed it to infection. A systemic outline should be followed in all cases. An extensive examination is not always necessary, but in obscure conditions one should not hesitate to use every available means in investigating the urologic tract from the external urethral orifice to the cortex of the kidney. A few pus cells, even in very small microscopic amount, are of significance, and a careful examination should be made to determine their source. The likely association between urinary infections and infections elsewhere in the body should always be borne in mind. An endeavor should be made to determine whether there is some mechanical obstruction present, for this is the most common etiologic factor in upper urinary tract infection.

Wassermann Test

DRS. PAUL EATON and F. L. DAMREN, Augusta: There is much room for increasing the usefulness of the Wassermann test by the wider dissemination of information concerning its true import. The 2,275 tests we analyze comprise a little more than half the work of our laboratory so far this year. In sixty-seven of these cases the blood serum was anticomplementary. We were able to check fifty-three of these cases with the Kahn test and found that it was positive in forty and negative in thirteen of them. The fourteen which we did not test amount to only 0.5 per cent. It must be constantly borne in mind that the test, while enormously valuable, is not infallible and that the responsibility for diagnosis falls, not on the laboratory, but on the physician. The physician must use the Wassermann test just as he would use a watch or a thermometer, with a full appreciation of its weaknesses and shortcomings.

Rat Bite Fever

DR. R. S. LEADINGHAM, Atlanta: Sodoku, or rat bite fever, is a disease transmitted by the bite of a rat carrying *Spirochaeta morsus-muris*. I have isolated the organism by animal inoculation from two of three cases observed in Georgia. Seventy-three rats caught in Atlanta and vicinity and examined were found not to harbor the parasite in their peripheral blood streams. Arsphenamine is a specific and rarely more than two small doses have been necessary to effect a cure.

Rôle of Plasma Chlorides in Lobar Pneumonia

DR. JOHN W. DANIEL, Savannah: These are three conditions — saline contents, hydrogen ion concentration, and temperature — which are capable of altering the dissociation curve of hemoglobin. In pneumonia the physician must combat all three. The temperature may be controlled with baths, exposure to cold air, etc., but not with drugs. The low plasma chlorides and high hydrogen ion concentration may often be controlled by intramuscular injections of a normal or hypertonic salt solution. In a patient of average weight, whose heart is functioning fairly well and the volume of urine good, injections of 500 cc. of physiologic sodium chloride solution should be given every three hours. The quantity should be based on the amount of plasma chlorides. If the chlorides are very low, 200 or 300 cc. of hypertonic solution should be injected every three hours until the plasma chlorides are at least 500 mg. If laboratory facilities are not convenient, the appearance of chlorides in the urine is a fairly good guide for the discontinuance of the injections. For patients who are in coma or unable to retain food and are in need of nourishment and fluid in the tissues, 10 per cent dextrose should be added to the saline injections. The dextrose furnishes calories as well as glycogen, which is the best of all heart stimulants. The condition of patients with dilatation of the right ventricle may be improved by drawing 200 or 300 cc. of blood from a vein. These are the cases in which the hypertonic solutions should be used so as to avoid injecting a large volume of fluid. We have treated eight cases of lobar pneumonia as outlined. The treatment in each case was based on the laboratory reports. These patients recovered. We do not claim that the injection of salt solution is a panacea for pneumonia. The claim is made that when the chemical equation reaches the point of equilibrium the sodium is no longer available for buffering the hydrogen ion of carbonic acid. The injection of sodium chloride will furnish the base, sodium ion, and prevent the development of an acidosis which is usually fatal.

Otomycosis

DR. ARTHUR G. FORT, Atlanta: Attention was called particularly to this condition as it affected the external auditory canal and drum membrane of a large number of people presenting themselves for treatment in south Florida, particularly during the six weeks following the hurricane of Sept. 17 and 18, 1926. It was not unusual to see three or four new cases every day. The most common forms of fungi with which we came in contact were of the species *Aspergillus niger* and *fumigatus*. These were identified by the detritus in the ears and by the growths and smears confirmed by the laboratory study. The development of the spores in the external auditory canal is rapid, as there is warmth and moisture and they are protected from every mechanical interference. The growth is augmented or stimulated quite often by the instillation of oil, so often used to soothe discomfort in the ears. The diagnosis is easy if one is looking for fungus invasion, and it is to be differentiated from seborrheic dermatitis and eczema. Microscopic examination will definitely settle the matter. The prognosis is always favorable, even though the drum membrane has been penetrated, provided one has an appropriate treatment and seeks a dry climate. The ear should be thoroughly irrigated with warm water, thereby removing a large part of the growth and detritus. Hydrogen peroxide should be instilled and allowed to remain in the ear for a few moments; the ear should be irrigated with warm water; 10 per cent cocaine in 1:1,000 solution of epinephrine hydrochloride should be instilled and allowed to remain ten minutes; the ear should be dried and about ten drops of pure alcohol instilled. This should be repeated every day for a period of at least one week and then at intervals of one week for a month or more. Under this treatment our patients were relieved, and when they persisted in treatment relapses were rare. After the first two or three treatments all medications except alcohol can be omitted.

So-Called Irreducible Minimum in Surgical Mortality

DR. C. W. ROBERTS, Atlanta: There must be a quickening of surgical conscience. Only a deep-rooted acceptance of responsibility for outcome in operative procedure can furnish the urge that is required to stand by threatening failure constantly with the optimism of hope and with maximum efficiency. There is no mortality rate in a given surgical condition that should be accepted as standard. Team work and cautiously adapted variations of procedure lower mortality rates. There must be an occasional stock taking among surgeons in order to see where emphasis is being placed and to find the motive that activates them. In the

"poor surgical risk" group timely preparation, well chosen anesthesia, and proper and intelligent postoperative care overseen by experienced men who anticipate and properly meet threatening complications constitute the most fruitful measures of lowering prevailing death rate percentages. Cells die without water, and sugar furnishes the body's necessary fuel. They should be used. That personal or personally supervised care of patients yields a lower death rate may be attested by comparing mortality tables compiled by small clinics where authority is centralized and procedure standardized to those of large hospitals where there is a tendency to lose sight of the individual in a mad rush to serve large numbers. End-results should be more and more the yard stick by which a surgeon's work is measured.

Injection of Internal Hemorrhoids

DR. M. C. PRUITT, Atlanta: The solution I use in the great majority of cases is phenol (carbolic acid), 1 drachm (4 cc.); glycerin, 3 drachms (12 cc.); water, 4 drachms (15 cc.), or a 12.5 per cent solution. The object of the injection treatment is to produce, by irritation, sufficient fibrosis to obliterate the network of dilated blood vessels forming the hemorrhoids, causing them to shrink and not sufficient to cause sloughing of tissue. The relief of symptoms after the first treatment by the injection method is so complete that it is frequently hard to get the patient to believe that he needs any further treatment. This increases the percentage of recurrences. It is absolutely essential to have sufficient knowledge of the anatomy of the part and to make a physical examination with such a degree of care to enable differentiation between external and internal hemorrhoids, as only the internal type without complications is suitable for this method. The injection method is not without fault, but must be recognized as one of the standard forms of treating internal hemorrhoids.

Periodic Examination of Apparently Healthy Persons

DR. EDGAR A. HINES, Seneca, S. C.: To promote the better equipment of South Carolina doctors not only to undertake examinations of the apparently healthy citizen but to give him the most scientific care when he is sick, the board of trustees of the State Medical College, April 28, 1927, on request of the state medical association, decided to open the doors of the college twice a year for intensive intramural postgraduate courses free of charge. In addition to this service, the entire faculty will also be available for twelve months out of the year to go out to the county and district medical societies and give brief intensive courses to the busy practitioners who cannot leave their homes. These professors will be prepared to instruct physicians in the latest methods of conducting health examinations, in addition to other courses as desired. The basic idea of the leaders of the American profession is that these health examinations shall be made by the private practitioners rather than in a wholesale manner by health clinics of the commercial type. The practitioner is competent, though in many instances it may be necessary for him to catch a little different point of view and make some additional preparation for properly conducting such examinations. This is the crux of the problem for organized medicine. It will be successfuly solved but will take time. To activate 150,000 physicians and 118,000,000 people is a colossal task. Some results of periodic health examinations will be of interest. Among 17,000 adult white males recently examined, about 13 per cent were found to be overweight by more than 20 per cent above the usual standards for height and age. "Heavy dentistry" with suspected focal infection was found in 42 per cent of the cases; enlarged, septic or buried tonsils were discovered in more than a fourth of these adults; high blood pressure was found in about 7 per cent of the patients. Young persons, advised in hygiene, have a good opportunity for eradicating an adverse finding and by doing so add not only to their efficiency but to their longevity prospect. Thus, overweight was observed in only 5 per cent of the persons examined under the age of 25, but after the age of 55 it was observed in almost 20 per cent of the persons coming to the physician. High blood pressure showed a percentage of less than 5 in those under 35 years of age, but of 10 in those between 45 and 54, and more than 20 in those beyond 55 years of age. The young people who were apprised of their condition by the physician have better longevity prospects now when they can safeguard themselves than they could have had if no examination or advice had been given them.

D'Arsonval Current in the Removal of Tonsils

DR. JULIAN BUFF, Atlanta: It occurred to me some months ago that by making a veder loop with a detachable metal tip, the shaft part of the instrument being insulated, the tonsil could be engaged more easily than with a tip made of hard rubber, or a metal tip covered with rubber. This instrument has proved very satisfactory. The method I use now has proved to be the most satisfactory way of removing tonsils, whether it is used with local or general anesthesia. The negative wire of a high frequency current machine is attached to the Beck instrument and then the tonsil is caught with a pair of insulated forceps except the tip, which serves as the positive pole, and then the current is turned on with a foot switch and the wire in the Beck instrument pulled taut until the tonsil is removed, which requires about three or four seconds, using 200 or 300 miliamperes of current. Operators who are beginners should not try this method; in fact, no one who is not adapted to the use of the Beck instrument and uses it with marked rapidity. This method has been used in thousands of cases and no explosion has been reported, and if one should happen it will be due to the carelessness of the operator. Advantages over the old method are: absence of blood, sealing of the lymphatics, less pain following the operation, less danger of secondary hemorrhage, faster healing, less scar tissue, less nausea when ether is used, and less fatigue to the operator.

Supracondyloid Fracture of the Elbow

DR. GRADY N. COKER, Canton: An accurately flexed, accurately reduced supracondyloid fracture will hold itself in place provided flexion is maintained. A simple sling is all that is needed. We have treated twenty-five cases by this method; twenty-one were dismissed cured and four with fair results. Our percentage of cures was 84. Early passive motion was a big factor in our results.

Subdiaphragmatic Abscess: Suggestions for Prevention

DR. L. W. GROVE, Atlanta: I feel that a great deal may be done toward the prevention of subdiaphragmatic abscess. This is accomplished by a more detailed supervision of the postoperative management, of acute suppurative conditions, of the right abdomen. The condition usually arises from some suppurative process in this location, and if certain principles of drainage were more strictly adhered to the condition would occur less frequently. The second precaution to be taken in suppurative conditions of the retrocecal space is supervision of postoperative posture. If these patients are allowed to remain prone in bed for a long time there is a tendency for the infection to gravitate upward toward the right kidney pouch, which favors a subsequent subdiaphragmatic infection. These patients should assume the Fowler position early. This not only encourages increased drainage but also causes relaxation of the abdominal muscles, which is an added comfort to the patient with this condition. The active treatment of subdiaphragmatic abscess is necessarily surgical, as soon as practical, after the diagnosis is made. The mortality rate is directly proportionate to the duration of the abscess. There is an increase of 15 per cent in cases in which operation is delayed longer than seven or eight weeks.

The Phosphatic Index

DR. G. Y. MOORE, Cuthbert: In the proper diagnosis of a case the medical profession is coming more and more to recognize the importance of the phosphatic index, which gives an estimate of the nerve energy as controlled by nutrition of the system. All the trillion cells, muscle, bone and fluid that make up the human body are fed by the flow of blood, constantly propelled by the nervous system. The medical profession cannot find a better field for its future researches than an exhaustive study of the position of the blood and nerve cells in the building and upkeep of the body in the life of man.

Current Medical Literature

AMERICAN

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American Journal of Diseases of Children, Chicago

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*Unsuccessful Attempt to Protect Infants Against Dysentery by Oral Administration of Vaccine. L. Wilkins, Baltimore.—p. 711.
*Agglutination Reactions in Rabbits Following Oral Vaccination with B. Dysenteriae. M. N. Fulton and G. P. Berry, Baltimore.—p. 714.
*Reversal of Normal Concentration of Urine in Enuresis. A. Friedell, Minneapolis.—p. 717.
*Respiratory Metabolism in Infancy and in Childhood: VI. Specific Dynamic Action of Food. S. Z. Levine, J. R. Wilson, F. Berliner and H. Rivkin, New York.—p. 722.
*Dressing for Breasts of Mothers of Newly Born. L. R. De Buys, New Orleans.—p. 732.
*Pyopneumothorax in Infants. F. E. Johnson, New York.—p. 740.
*Keratodermia Palmaris et Plantaris Congenitalis. H. C. Olmsted, Seattle.—p. 757.
*Nonoperative Treatment of Intussusception. G. M. Retan, Syracuse, N. Y.—p. 765.
Physical Defects in Thousand Children. W. R. P. Emerson, Boston. —p. 771.
*Streptococcic Meningitis of Otitic Origin. E. J. Huenekens and A. V. Stoesser, Minneapolis.—p. 779.
*Anthocyaninuria. M. W. Poole, Detroit.—p. 784.
Von Jaksch's Anemia. T. B. Cooley, Detroit.—p. 786.

Incidence of Dysentery and Diarrhea Among Infants.—In a group of 628 white infants under 2 years of age, representative of the poorer middle class, from 7.5 to 13 per cent developed dysentery during the summer of 1925, and 27 per cent developed simple diarrhea. Among those not exclusively breast fed the incidence of dysentery was from 10 to 17 per cent and of diarrhea 33 per cent. Of all the cases of gastro-intestinal disturbance encountered by Wilkins, from 19 to 33 per cent were caused by dysentery. Dysentery is of much longer duration than "simple diarrhea," lasting more than two weeks in 65 per cent of the cases. When breast-fed infants are excluded, there is approximately the same frequency of gastro-intestinal disturbances during the first and second summer of life.

Experimental Serum Therapy of Dysentery.—A vaccine containing two billions each of five strains of Flexner dysentery bacilli was given by Wilkins by mouth on three successive days to 107 infants under 2 years of age. The frequency of dysentery among the infants who received the vaccine was identical with that among a control group of 369. The vaccine did not protect against dysentery.

Agglutination Reactions of Dysentery Bacillus.—Fulton and Berry assert that agglutinating properties can be produced in the serum of rabbits by the oral administration of killed dysentery bacilli.

Treatment of Enuresis.—In treating thirty-nine children having enuresis, Friedell found that the psychic treatment in the form of a hypodermic of sterile water proved successful in 87 per cent of the cases. In patients whose urine showed a persistent reversal of concentration, when the specific gravity of the day specimen was greater than that of the night, the treatment proved a failure. In borderline cases in which the specific gravity of the urine during the day was equal to or slightly greater than that of the night urine, a cure usually was obtained but with more difficulty than in patients with a normal concentration.

Dynamic Action of Food on Metabolism.—The effect of food on the metabolism of two normal infants, aged 3 and 4 months, was studied by Levine et al. in thirteen carefully controlled calorimetric observations of from two to six hours' duration. Fat, milk and protein meals raised the metabolism of one infant 8, 4 and 15 per cent above the basal level. The other infant reacted to the fat, milk, dextrose and protein meals by respective increases of 1, 9, 8 and 17 per cent above the basal level in the three hours after ingestion.

Dressing for Breasts of Nursing Mothers.—DeBuys applies five strips of adhesive plaster to the chest in such a way that the breasts are held perpendicular to the chest wall and pointing directly in front of the mother. They are supported in this position with a minimum of pressure being made against the chest wall; that is, the breast is not being pressed down. There is no compression of the mammary glands, no obstructions to any of the ducts and no twisting of the nipples; hence the milk may be secreted without restriction and may be allowed to flow freely without obstruction, and the natural leakage of the excess milk may take place in a normal way. One strap lying above the breast, one below, two straps crosswise and one between the breasts comprise the dressing.

Pyopneumothorax in Infants.—Johnson analyzed ten cases. All the ten patients probably had pleuropneumonia from the onset, and the pyopneumothorax was caused by a ruptured subpleural abscess. The similarity of the conditions found in three necropsies was striking. All three cases showed rupture of the lung in the upper lobe, a thick pleural exudate with interlobar adhesions, collapsed lung with one or more abscesses and bronchopneumonia. These are the youngest infants reported with pyopneumothorax complicating pneumonia, two being 1 month old.

Palmar and Plantar Keratodermia.—A case of keratodermia palmaris et plantaris of the congenital hereditary type is described by Olmsted. The previous occurrence of associated similar lesions in the circumoral and circumanal regions has not been reported.

Nonoperative Treatment of Intussusception.—Retan has been successful in using a method of injection of barium under the fluoroscope, with manual pressure for the relief of intussusception. He believes that in properly selected cases this method can be used with comparative safety.

Streptococcus Meningitis of Otitic Origin.—A case of bilateral otitis media and mastoiditis is reported by Huenekens and Stoesser with meningitis as a complication. This meningitis yielded a spinal fluid positive for pneumococcus by smear, and for streptococcus by smear and culture. The streptococcus was of the hemolytic type. The path of infection from the middle ear and mastoid to the meninges was not determined.

Anthocyaninuria.—Attention is called by Poole to a condition which apparently occurs rarely, that is, pigmentation of the urine following the ingestion of red beets (beta vulgaris), and which might readily be mistaken for other conditions in which red pigment appears in the urine.

American Journal of Ophthalmology, Chicago

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American Journal of Physiology, Baltimore

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*Blood Regeneration in Severe Anemia: VIII. Influence of Bone Marrow, Spleen, Brain and Pancreas Feeding: Organic Iron in Diet. G. H. Whipple and F. S. Robscheit-Robbins, Rochester, N. Y.—p. 391.
*Id.: IX. Influence of Fresh and Dried Fruits. F. S. Robscheit-Robbins and G. H. Whipple, Rochester, N. Y.—p. 400.
*Blood Calcium as Affected by Insulin. J. C. Brougher, Portland, Ore.—p. 411.
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Effect of Injected Glucose on Tolerance. E. M. Jordan, Rochester, Minn.—p. 441.
Effect of Amount of Protein in Previous Diet on Nitrogen Excretion of Albino Rat During Fast. F. A. Hitchcock and A. L. Rawlins, Columbus, Ohio.—p. 450.
*Experimental Study of Obstructive Jaundice: Initial Bilirubinemia. J. L. Bollman, C. Sheard and F. C. Mann, Rochester, Minn.—p. 461.
Dynamics of Ventricular Contraction in Heart-Lung Preparation. L. N. Katz, Cleveland.—p. 470.

Blood Calcium Deficiency in Obstructive Jaundice.—In three cases of human jaundice, one of catarrhal jaundice, one of obstructive jaundice due to carcinoma of the head of the pancreas, and one of hemolytic icterus, seen by Buchbinder and Kern there were found low serum calcium values, which approached the normal with decrease of the jaundice. In puppies subjected to common duct ligation there occurred a progressive decrease in blood serum calcium, reaching approximately half the normal value.

Blood Regeneration in Severe Anemia.—Whipple and Robscheit-Robbins assert that beef marrow powder or cooked beef spleen are not especially potent food factors to promote hemoglobin regeneration in severe anemia. Bone marrow powder, from 30 to 40 Gm. daily, will cause an increase of from 20 to 25 Gm. of hemoglobin per two-week period over the control level. Brain tissue is a favorable diet factor for hemoglobin regeneration in severe anemia. A diet intake of from 200 to 300 Gm. cooked brains a day will cause an average increase in hemoglobin production of from 20 to 25 Gm. per two-week period above the control level. Pancreas is a favorable diet factor, and on an intake of from 200 to 300 Gm., there results an average increase in hemoglobin of 35 Gm. per two-week period over control periods. These reactions do not compare with the enormous increases in hemoglobin production during heavy feeding with liver or kidney.

Value of Fruit Diet in Blood Regeneration.—Experiments made by Robscheit-Robbins and Whipple have shown that apricots and peaches contain diet factors which are very favorable for hemoglobin regeneration during severe anemia. The addition of 200 Gm. of this cooked fruit to the daily standard diet may cause an average output of from 40 to 45 Gm. of hemoglobin per two-week period, over and above the standard control periods. For hemoglobin regeneration in simple anemia, these fruits are far superior to all dairy products. Dried fruits are as efficient as fresh fruits in the promotion of hemoglobin regeneration in anemia. Raisins and fresh grapes are somewhat less favorable than peaches and apricots for hemoglobin production in simple anemia. Apples, fresh and dried, show considerable variation but average about the same as grapes and raisins. Prunes come in the class with apricots and peaches. Raspberries (black, fresh) are practically inert as regards hemoglobin regeneration in anemia.

Effect of Insulin on Blood Calcium.—Brougher states that in both normal and parathyroidectomized dogs, the blood calcium is increased for a period of two and one-half hours following the administration of insulin.

Regulation of Respiration; Blood and Tissue Acidity.—Experiments made by Hertzman and Gesell support the view of the lack of correspondence between changes in acidity in the blood and in the tissues. The results agree with the theory that the acidity of the respiratory center is important in the control of pulmonary ventilation. They are not in disagreement with a direct effect of oxygen on pulmonary ventilation by changes in the state of oxidation of the respiratory center.

Bilirubinemia in Obstructive Jaundice.—Bollman, Sheard and Mann found that the ligation of the common bile duct after extirpation of the gallbladder is followed by an immediate rise in the bilirubin content of the blood, and it continues to increase at a uniform rate for several hours after this operation. Studies of the pressure in the common bile duct in these experiments showed that the maximal pressure was obtained almost immediately, and the progressive and uniform increase in the bilirubin content of the blood followed the application and maintenance of this pressure. If submaximal pressure is maintained in the common bile duct, bile continues to be excreted, but there is retention of bile pigment which produces hyperbilirubinemia. From these and other considerations, it would appear that the increasing intraductal pressure of obstructive jaundice early incapacitates the hepatic cells, so that bile pigment is not absorbed from the blood stream and the liver and biliary ducts do not become saturated with bilirubin.

American Journal of Public Health, Albany, N. Y.

17: 311-432 (April) 1927

*Scarlet Fever Outbreak Due to Infected Food. C. L. Scamman, H. L. Lombard, E. A. Beckler and G. M. Lawson, Boston.—p. 311.
Population Maps. A. F. Gillihan, Sacramento, Calif.—p. 316.
*Examination of Disinfectants. G. F. Reddish, Washington, D. C.—p. 320.
School Child. J. T. Phair, Toronto.—p. 330.
Pathogenic Bacteria in Swimming Pools. W. R. Stokes, Baltimore.—p. 334.
Public Health Engineering in Latin America. E. H. Magoon.—p. 336.
Public Health Engineering Progress in Palestine. L. Cantor, Palestine.—p. 341.
Effects of Silica Dust on Lungs: II. R. R. Sayers, Washington, D. C.—p. 348.
*Health Problems of Modern Mexico. F. L. Hoffman, Newark, N. J.—p. 352.
Effect of Different Temperatures on Bacterial Flora of Milk. M. J. Prucha, Urbana, Ill.—p. 356.

17: 433-547 (May) 1927

Goal Posts and Yardsticks in Health Center Work. M. M. Davis, New York.—p. 433.
Spray Coating Processes. H. F. Smyth, Philadelphia.—p. 440.
Health Department Bulletins. H. N. Bundesen, Chicago.—p. 442.
Community Control of Acute Infections. A. W. Bingham and J. J. Gallagher, New York.—p. 448.
Eliminating Pollution from Great Lakes. A. J. McLaughlin, St. Louis.—p. 454.
Eliminating Pollution from Lake Erie and Niagara River. J. W. Ellms, Cleveland.—p. 457.
Relation of Tunnicliff and Ferry Diplococci to Measles. W. H. Park, A. W. Williams and M. Wilson, New York.—p. 460.
Public Health Engineering in European Countries. G. W. Fuller, New York.—p. 466.
Public Health Aspects of Food Preservation. C. R. Fellers, Amherst, Mass.—p. 470.
Infant Mortality as Shown by Canadian Vital Statistics. E. S. Macphail, Ottawa.—p. 476.
Psychology of Public Health Education. W. W. Peter, Shanghai, China.—p. 485.
Tubercle Bacilli in Raw Milk of Chicago Dairy District. F. O. Tonney, J. L. White and T. F. Danforth, Chicago.—p. 491.

Scarlet Fever Due to Infected Food.—Simultaneous occurrence of three geographically distinct outbreaks of sore throat and scarlet fever, apparently all due to a single contaminated food, are analyzed by Scamman et al. At least 138 of 592 persons attending the banquets at which the food was served developed illnesses. In ninety-eight cases the illness was undoubtedly scarlet fever. In forty the evidence is not sufficient to warrant a positive diagnosis. Evidence is presented to show that the source of infection was probably the lobster meat in a lobster salad. The approximate time of contamination of the lobster meat is evident, but the carrier or missed case responsible for the contamination could not be definitely identified. The occurrence of outbreaks of scarlet fever and sore throat from a common source of infection, with secondary cases of scarlet fever following contact with sore throat patients, show the importance of sore throats in the spread of scarlet fever. These might better be classed as cases of scarlet fever without eruption. Experiments were carried out which indicate that a hemolytic streptococcus may remain alive in lobster salad for a period long enough to infect those who partake of the salad.

Testing Germicidal Efficiency of Disinfectants.—A new method for testing the germicidal efficiency of disinfectants and antiseptics is proposed by Reddish. The test is based on the well known technic of the Rideal-Walker and Hygienic Laboratory methods. The best features of both these tests are retained and the most objectionable ones are eliminated. Instead of using only one test organism, as specified in the Rideal-Walker and Hygienic Laboratory methods, it is recommended that representatives of the most important groups of pathogens be used in a simplified method. Detailed procedures are given for *B. typhosus* and *Staphylococcus aureus*, and tentative methods are outlined for *B. diphtheriae*, *B. tuberculosis*, the pneumococcus bacillus and *Streptococcus hemolyticus*. A standard of resistance to phenol (carbolic acid) for each of these organisms, with the exception of *B. tuberculosis*, is given, and when they are used for testing the germicidal powers of disinfectants and antiseptics, they should show the resistance to phenol here indicated. It is not recommended that the manufacturers of disinfectants and antiseptics give the phenol coefficients of their products against all the pathogens used in this test, but they should be sure that the dilutions specified for their products will kill the pathogenic micro-organisms which it is desired should be killed.

Health Problems of Mexico.—Hoffman is of the opinion that health conditions in Mexico are making progress, and that the time is not far distant when the death rate will fall considerably below what it has been in years past. Malignant diseases are relatively much less common in Mexico than in the United States. Among the Pueblo Indian population, cancer also is extremely rare. Among the Mexican population, the prevailing type of cancer is of the uterus. Cancer of the breast is seldom found. Cancer of the stomach, intestine and rectum, as well as of the skin, is also comparatively rare.

Archives of Dermatology and Syphilology, Chicago

15: 527-646 (May) 1927

Analysis of One Thousand Cases of Congenital Syphilis. C. M. Smith, Boston.—p. 527.
*Bismuth Thioglycollate in Treatment of Syphilis. O. M. Gruhzit, E. Lyons and R. Perkins, Detroit.—p. 550.
*Acne Bacillus. L. W. Ketron, Baltimore.—p. 568.
Case of Poikiloderma Atrophicans Vasculare. K. M. Bowman and E. C. Clark, Boston.—p. 583.

Bismuth Thioglycollate in Syphilis.—Gruhzit et al. report that bismuth thioglycollate does not produce any injury; albuminuria is not produced; the blood urea nitrogen is not affected by it, and histologic studies indicated that a dose of 2.6 mg. per kilogram does not cause any changes in the liver, spleen and kidneys. Bismuth thioglycollate is absorbed from the site of injection in less than two hours. From about 20 to 40 per cent of bismuth appears in the urine and feces within seventy-two hours. The greatest part of it is eliminated through the kidneys. The spirocheticidal value increases with the quantity of the drug given. The minimum effective dose is about 1.3 mg., while the optimum spirocheticidal dose is from 2 to 2.5 mg. per kilogram. A limited clinical experience indicates that bismuth thioglycollate produces a somewhat more rapid improvement in lesions than do the insoluble bismuth compounds. It does not cause any lumps or pain at the site of injection when administered in water solution. The patient can be saturated readily without danger of cumulative action. The Wassermann reaction was influenced rapidly.

Acne Bacillus.—A bacillus on the skin, with cultural requirements and distribution similar to the acne bacillus, is described by Ketron. Because of this general similarity it is regarded as a variety of the acne bacillus and is designated acne bacillus B. The usual form is referred to as acne bacillus A. The B variety differs from the A variety principally in its more rapid growth, the absence of zoning in deep shake tubes and the occurrence of certain characteristic involution forms in anaerobic cultivation. Other differences in the appearance of the growth of the two varieties and in the fermentation reactions are described.

Archives of Neurology and Psychiatry, Chicago

17: 571-722 (May) 1927

Gastroduodenal Ulcers and Autonomic Imbalance. H. G. Wolff and E. W. Thomas, New York.—p. 571.
*Mechanism of Compression in Case of Tumor of Cerebellopontile Angle. W. F. Schaller, San Francisco.—p. 609.
*Infantile Type of Family Amaurotic Idiocy. J. H. Leiner and S. P. Goodhart, New York.—p. 616.
*Postencephalitic Respiratory Syndromes. S. E. Jelliffe, New York.—p. 627.
*Rôle of Syphilid in Parkinsonian Syndrome. I. Pardee, New York.—p. 662.

Tumor of Cerebellopontile Angle.—The case reported by Schaller was of a typical tumor of the acusticus of slow growth which presented a marked cerebellar incoordination but lacked any indications of optic edema, symptoms of intracranial pressure and facial paralysis. The choroidal changes about the disks may well have resulted from a former papillitis, due to transient fluid block. The compression of the brain stem was not marked, as the tumor extended upward and outward at the expense of the cerebellar hemisphere and the middle cerebellar peduncle. The lack of degeneration in the dentate nucleus, superior peduncle and red nucleus suggested that the cause of the cerebellar incoordination should be sought elsewhere. The evident cause was found in the degeneration of the middle peduncle and of the restiform body, and in the degeneration of the descending vestibular root, both of the latter degenerations being dependent on the unilateral destruction of the vestibular nerve root.

Infantile Type of Family Amaurotic Idiocy.—The two cases reported by Leiner and Goodhart represent clinically the classic picture of Tay-Sachs' disease, but in some points differ anatomically from the classic types.

Postencephalitic Respiratory Syndromes.—Jelliffe reports two cases. One patient had a mild "cold in the head," and then a definite night delirium in which he saw "angels"; he was apparently quickly restored to health and returned to school. Then nasal sniffling and complaints of nasal obstructions began; there was then an automobile accident with nose implication, followed by respiratory sequelae. These were of the classic tachypneic variety, involving both intercostals and the diaphragm, with apneic phases, trance states, tetany cramps, occasional semiconscious lapses or trancelike states (which should be compared with the stuporous attitudes described by Bilancioni and Fumarola), sleep formula reversal, behavior anomalies, and then parkinsonism, with greasy face, sialorrhea, polyuria and polydipsia. The second patient had a mild cold in December, 1924, and then developed a talkative hypomanic state with hallucinations of bugs crawling on the ceiling, which lasted from two to three days. This was followed by a definite, fleeting diplopia and a deep lethargic state. Some weeks later a respiratory sequel and a pronounced sleep reversal formula began. The respiratory attacks were tachypneic, irregular and were participated in by both intercostal and diaphragm muscles. With increasing tachypnea and almost continuous (fishlike breathing) sharp expirations, the parkinsonian attitude, sialorrhea, polyuria and polydipsia appeared. The patient was still under treat-

ment three months later, in June, 1926, without appreciable improvement from conscious levels.

Rôle of Syphilid in Parkinsonism.—In Pardee's opinion, the parkinsonian syndrome of neurosyphilis is established as a disease entity, its recognition depending on the zeal exercised in the study of that syndrome.

Archives of Ophthalmology, New Rochelle, N. Y.

56: 105-210 (March) 1927

Treatment of Iris in Cataract Operations. H. Smith.—p. 105.
Intra-Ocular Pressure. L. Bothman and S. J. Cohen, Chicago.—p. 110.
Pelvic Organs as Foci of Infection in Inflammatory Diseases of Eye. W. L. Benedict, W. H. Von Lackum and A. A. C. Nickel, Rochester, Minn.—p. 116.
Glaucoma in Morgagnian Cataract. A. Knapp, New York.—p. 124.
Slit Lamp Study of Posterior Lenticonus. E. J. Marsh, Paterson, N. J. —p. 128.
Corneoconjunctival Suture for Cataract Operations. F. H. Verhoeff, Boston.—p. 137.
Protection of Eyes by Reflecting Glasses. J. Imre, Jr., Pécs, Hungary. —p. 141.
Dystrophic Intracellular Opacity of Corneal Epithelium. N. M. Black and F. H. Haessler, Milwaukee.—p. 151.
Report of Case of Flat (Infiltrating) Melanosarcoma of Choroid. J. W. Smith, New York.—p. 156.
Relation of Nasal Ganglion to Glaucoma. H. Byrd, Bradenton, Fla.—p. 162.

56: 211-317 (May) 1927

Multilocular Cyst of Optic Nerve Meninges. M. Cohen and L. H. Meeker, New York.—p. 211.
Bilateral Glioma of Retina in Nonenucleated Eye Cured by Radium Treatment. M. J. Schoenberg, New York.—p. 221.
Principles of Syphilotherapy Applied to Eye. J. H. Stokes, Philadelphia. —p. 229.
Visual Field in Optic Neuritis Secondary to Sinus Disease. J. M. Griscom and M. M. Monroe, Philadelphia.—p. 244.
Organoluetin Reaction in Diagnosis of Interstitial Keratitis. D. K. Pischel, San Francisco.—p. 249.
Abscesses of Optic Nerve. A. B. Reese, New York.—p. 265.
Use of Oblique Muscles of Eye. G. L. Johnson, Durban, South Africa. —p. 272.
Adenocarcinoma of Upper Lid Extending into Orbit. H. W. Wootton, New York.—p. 275.
Treatment of Iridocyclitis by Subconjunctival Injections of Atropine and Epinephrine. F. H. Rodin, San Francisco.—p. 277.
Fatty Infiltration of Anterior Segment (Xanthomatosis Bulbi). S. R. Gifford, Omaha.—p. 281.
Familial Maculocerebral Degeneration in Half Brother and Sister. S. J. Beach, Portland, Me.—p. 286.

Archives of Otolaryngology, Chicago

5: 301-384 (April) 1927

Is Radium Cure for Cancer of Larynx? T. J. Harris, New York.—p. 301.
*Diagnosis of Chronic Maxillary Sinusitis. H. P. Johnson, Rochester, Minn.—p. 309.
Method of Introducing Esophagoscope. M. J. Mandelbaum, New York. —p. 317.
Peroral Endoscopy in Complications Following Operations on Nose and Throat. G. Tucker, Philadelphia.—p. 321.
Visualization of Eustachian Tube by Roentgen Ray. W. Spielberg, New York.—p. 334.
Tic Douloureux of Glossopharyngeal Nerve: Case. H. M. Goodyear, Cincinnati.—p. 341.
Id.: Cured by Mastoidectomy. H. S. Wieder, Philadelphia.—p. 344.
Pemphigus of Throat. A. H. Rubenstein, Syracuse, N. Y.—p. 349.
New Antrum and Frontal Rasps. R. G. Reaves, Knoxville, Tenn.—p. 351.
Tumors of Nose and Throat: Review of Literature. G. B. New, Rochester, Minn.—p. 352.

Diagnosis of Chronic Maxillary Sinusitis.—Ninety-two per cent of the cases in the series reported on by Johnson could be diagnosed by means of the clinical data alone; in 67 per cent of the cases a diagnosis might have been made from the roentgenographic observations, while 98 per cent were diagnosed from the clinical and roentgenographic observations combined. Almost 19 per cent of the diseased maxillary sinuses could be traced to extension of dental infection. From the investigation of 300 maxillary sinuses, it would seem that a diagnostic puncture of this sinus is justifiable when there is any suspicion regarding its condition. This is the only means of making a correct diagnosis.

Archives of Surgery, Chicago

14: 955-1124 (May) 1927

Relation of Nitrogen Bodies of Blood to Surgical Problems in Liver and in Biliary Tract Disease: I. A. O. Wilensky, New York.—p. 955.
*Torsion of Gallbladder. A. M. Shipley, Baltimore.—p. 968.
*Effect of Therapeutic Amounts of Digitalis on Cardiac Output of Anesthetized Dog: III. A. Blalock, Nashville, Tenn.—p. 978.
*Stomach Mucosa in Ulcer and Carcinoma. M. E. Steinberg, Portland, Ore.—p. 991.
*Fractures of Skull. B. M. Vance, New York.—p. 1023.
Lobar Atelectasis in Chronic Pulmonary Suppuration. E. D. Churchill and G. W. Holmes, Boston.—p. 1093.
Thirty-Second Report of Progress in Orthopedic Surgery. P. D. Wilson, Boston, and others.—p. 1107.

Torsion of Gallbladder.—Shipley reviews twenty-one cases of complete torsion of the gallbladder on record in the literature, and reports one new case.

Effect of Digitalis on Anesthetized Dog.—The observations made by Blalock offer a rational experimental basis for the belief that the preoperative administration of digitalis may be of considerable value in the preparation of certain types of patients for operation under general anesthesia. They also suggest that this drug should not be used during shock following operations.

Stomach Mucosa in Ulcer and Carcinoma.—Histologic examination made by Steinberg of twelve stomachs resected for ulcer of the duodenum or ulcer of the stomach and eight stomachs resected for cancer reveals that there are evidences of gastritis in the mucosa of all stomachs examined. Defects in the mucosa, erosions and small microscopic ulcers are frequently encountered. The changes are mostly limited to the distal part of the stomach in the area of the distribution of the pyloric glands. The evidences of gastritis are more pronounced in specimens resected for cancer.

Fractures of Skull.—Vance reviews 512 necropsies and sixty-one cases studied clinically.

Arkansas Medical Society Journal, Little Rock

23: 181-199 (April) 1927

Medical Activities of Department of Interior. H. Work, Washington, D. C.—p. 181.
Community Hospital as Factor in Promotion of Scientific Medicine and Human Sociology. F. L. Husbands, Blytheville.—p. 184.
*Intravenous Injections of Mercurochrome. R. H. T. Mann, Texarkana. —p. 187.
Better Tonsil Needle. P. L. Mahoney, Little Rock.—p. 189.

23: 201-211 (May) 1927

Commoner Diseases of Female Urethra. H. H. Howze, Texarkana.—p. 201.
Eye Manifestations of Toxemias of Pregnancy. J. G. Mitchell, El Dorado. —p. 204.

Mercurochrome in Sinus Thrombosis and Lung Abscess.—Mann reports two cases in which good results apparently followed the intravenous injection of mercurochrome. One was a case of lateral sinus thrombosis coming on after a mastoidectomy done for a hemolytic streptococcus infection. The second case was one of lung abscess. A threepenny nail was removed from the right bronchus and immediately the boy, aged 6, began to cough up much offensive pus. Later, a large abscess of the lung developed. The boy's condition became progressively worse. Then the mercurochrome was injected, and recovery ensued immediately.

Asso. American Med. Colleges Bulletin, Chicago

2: 193-288 (July) 1927

*Historical Method of Teaching Clinical Medicine. C. P. Emerson, Indianapolis.—p. 193.
*Senior Students as Interns. R. H. Oppenheimer, Atlanta, Ga.—p. 203.
Graduate Plan in Medical Education. M. C. Winternitz, New Haven, Conn.—p. 208.
*Experiment in Teaching Physiology. A. C. Redfield, Boston.—p. 214.
*Use of Pathologic Museum in Teaching Medicine and Surgery. H. T. Karsner, Cleveland.—p. 218.
Student Assistants in Medical Courses. A. P. Mathews, Cincinnati.—p. 224.
Problems of Bacteriologist in His Relations to Medicine and Public Health. H. Zinsser, Boston.—p. 227.
Outpatient Clinic and Problem of Instruction in Clinical Medicine. G. E. Shambaugh, Chicago.—p. 236.
Place of Pediatrics in Undergraduate Teaching. A. G. Mitchell, Cincinnati.—p. 241.

Historical Method of Teaching Clinical Medicine.—Emerson says that by greatly increasing its benefits to humanity, medicine makes it also necessary that medical schools graduate better and still better trained general practitioners. Too great loyalty to organization, too great a dependence on tools, too great a pride in quantity production is one reason why the American medical schools today are not producing their best product. Tools and organizations for standardized mass

production are splendid, but students should be taught, in the light of history, that they must live up, not to the most conspicuous elements, but to the best that there is in their culture, should understand its weakness, and should try to correct some of the evils which too great loyalty to that culture may produce. And finally, the lesson of history also suggests that American medical schools now should emphasize more not only greater accuracy in training but also the general culture of their graduates, their wider sympathies, in order to meet the wider social problems which medicine alone can answer.

Senior Students as Interns.—Oppenheimer feels that senior internships are of value to the student only when they are given in hospitals which are controlled directly as teaching units of the medical school or which have as staff members a sufficient number of the medical school faculty to insure to the student careful and persistent supervision of his work. Internships in hospitals which are not intimately connected with the medical school are either positively detrimental to the student or of very questionable value. Senior internships tend to lessen the interest of the student in the scheduled work of the curriculum. They limit his opportunity for reading and study. Only students doing entirely satisfactory class work should be permitted to accept internships.

Experiment in Teaching Physiology.—The experiment described by Redfield consists in selecting a few of the more capable students who are expected to take the ordinary examinations in physiology, but who are excused from the regular laboratory work. Special laboratory experiments are substituted. These laboratory experiments reduced the amount of laboratory instruction one-half. Then for the other half of the time they are given reading to do. This reading consists in selected chapters from the principal monographs which happen to be available. At the end of each week a conference is held to talk over the work which the students have been doing. Redfield is inclined to think that too much reliance is placed in the laboratory method in elementary teaching. "Like all material machines the laboratory course tends to get us in its grip. We get it organized, we get the outline printed, we get all the necessary pieces of apparatus, we get the stockroom boys trained and then the thing will run itself. I think that that kind of a machine gets a momentum which carries us along and keeps us very frequently from thinking seriously about just exactly what each of these experiments really means for the education of the individual."

Use of Pathologic Museum in Teaching.—Karsner is convinced that the pathologic museum so arranged as to be readily available for the use of the clinical teacher has its place in the scheme of medical education. Ideally, the use of fresh preparations should furnish the anatomic basis for clinical and pathologic studies. Admittedly, this is not practicable because of the fact that the type of fresh material available does not often coincide with the clinical cases to be illustrated. The museum must be sufficiently extensive to provide representative lesions of most, if not all, the clinical conditions which must be illustrated. If there is a coincidence of fresh material and living patient, the opportunity to correlate should be utilized. Otherwise, the museum is to be called on. The teacher, however, must not fail to realize that the museum preparation is little more than a three dimensional picture of the lesion under study and demonstrate it accordingly. It is to be recommended that every medical school devote a goodly amount of attention to building up a freely accessible and reasonably extensive pathologic museum, but this should be done with a realization of the limitations of this type of material.

Atlantic Medical Journal, Harrisburg, Pa.

30: 403-480 (April) 1927

Bone Tumors. J. C. Bloodgood, Baltimore.—p. 403.
Pneumonia in Infants and Children: Clinical Diagnosis: Roentgen-Ray Examination: Autopsy. A. Hand, R. S. Bromer, A. D. Waltz and J. J. Reilly, Philadelphia.—p. 409.
Cancer of Lower Portion of Large Bowel: Nine Cases. H. H. Holderman, Shenandoah, Pa.—p. 410.
Cardiac Decompensation: I. Causes. E. M. Green, Easton, Pa.—p. 414.
Id.: II. Symptomatology. C. H. Smith, Uniontown, Pa.—p. 415.
Id.: III. Diagnosis and Prognosis. J. B. McAlister, Harrisburg.—p. 417.
Id.: IV. Treatment. A. P. D'zmura, Pittsburgh.—p. 419.
Postencephalitic Paralysis of Downward Movement and of Convergence. W. S. Reese, Philadelphia.—p. 423.
Chronic Frontal Sinusitis (Bilateral) with Fistula. S. R. Skillern, Philadelphia.—p. 424.
Function of Sinuses. H. A. Laessle, Philadelphia.—p. 424.
Bilateral Posterior Lenticonus. W. G. Shemeley, jr., Philadelphia.—p. 425.
Plastic-Flap Method in Radical Mastoid Operation. H. Dintenfass, Philadelphia.—p. 426.
Control of Severe Nasal Hemorrhage. H. B. Cohen, Philadelphia.—p. 428.
Temporosphenoidal Abscess. M. S. Ersner, Philadelphia.—p. 428.
Sarcoma of Ethmoid Labyrinth. F. M. Strouse, Philadelphia.—p. 430.
Pansinusitis. N. P. Stauffer, Philadelphia.—p. 430.
Therapeutic Value of Light and Color. K. W. Baldwin, Philadelphia.—p. 431.
Pregl's Colloidal Iodine Solution in Treatment of Organized Exudate in Eye Tissues. A. V. MacKenzie, Philadelphia.—p. 432.
Palsy of Inferior Oblique Muscle. S. L. Olsho, Philadelphia.—p. 433.
Frontal Sinusitis Resulting in Retrobulbar Neuritis. R. J. Hunter, Philadelphia.—p. 434.
Purpura Hemorrhagica. H. W. Jones, Philadelphia.—p. 435.
Traumatic Injuries of Foot Related to Bituminous Coal Mining. W. E. Dodd, Rossiter, Pa.—p. 436.

Boston Medical and Surgical Journal

196: 677-720 (April 28) 1927

Cholecystitis, Cholesterol Gallbladder and Silent Gallstones. F. H. Lahey, Boston.—p. 677.
*Incidence of Heart Disease in Massachusetts. P. D. White, Boston.—p. 689.
Use of Artificial Pneumothorax in Treatment of Pulmonary Tuberculosis. M. H. Joress, Rutland, Mass.—p. 693.
Health Clinic. R. W. Buck, Boston.—p. 697.

Incidence of Heart Disease in Massachusetts.—In the fifteen year period from 1910 to 1925, the mortality from heart disease in Massachusetts has apparently increased from 0.119 to 0.208 per cent (of the total population). White says that heart disease is by far the commonest cause of death in this state at the present time (in 1925 the mortality from cancer was 0.125 per cent, from tuberculosis 0.083 per cent, and from pneumonia, 0.057 per cent). The total death rate in Massachusetts has dropped in fifty years (1875 to 1925) from 2.15 per cent to 1.23 per cent, and the infant mortality has dropped in twenty-five years (1900 to 1925) from 15.6 per cent to 7.3 per cent. Analysis of the etiologic factors responsible for 3,000 persons seeking medical help for cardiac symptoms and signs in hospital (1,000), general (1,000) and consultation (1,000) practice during the last few years in New England has indicated that about 80 per cent had organic heart disease and 20 per cent had functional disturbances alone. Of the organic cases, the following types were differentiated: "rheumatic," 54.5 per cent; coronary disease (arteriosclerotic) without hypertension, 20.5 per cent; hypertension without coronary disease, 13.5 per cent; hypertension with coronary disease, 17.5 per cent; syphilis, 4 per cent; hyperthyroidism, 3 per cent; subacute bacterial endocarditis, 2 per cent; angina pectoris, 21 per cent in consultation and 9.5 per cent in hospital practice; coronary thrombosis, from 3 to 6 per cent, and congenital heart disease, 1.5 per cent. About one half of the "purely functional" cases were classed as "effort syndrome" (10 per cent of the entire series). Of the 3,000 cases, 2.5 per cent were styled "unknown," there being no reasonable possibility of fitting them into any etiologic group.

Illinois Medical Journal, Oak Park

51: 337-420 (May) 1927

Gallbladder Disease from Standpoint of Surgeon. D. C. Straus, Chicago.—p. 373.
*Therapeutic Use of Radium Salts. F. D. John, Chicago.—p. 379.
Clinical Conferences for Smaller Communities. E. A. Kraft, Danville.—p. 383.
Effect of Medical Diathermy on Renal Excretion of Urea and Chlorides. M. L. Weinstein and J. Klein, Chicago.—p. 385.
Never Told Facts. J. Hund, Peoria.—p. 386.
Digital Exploration of Cancerous Rectum. C. J. Drueck, Chicago.—p. 392.
Economic Factor in Treatment of Syphilis. F. R. Schmidt, Chicago.—p. 398.
Tularemia: Seven Cases. T. Kirkwood, Lawrenceville.—p. 401.
Treating Syphilis. J. L. Webb, Chicago.—p. 405.
Spasmophilia. E. C. Wrightsman, Chicago.—p. 408.
Tonsillar Hemorrhage. S. M. Morwitz, Chicago.—p. 410.
Solitary Cyst of Kidney: Case. J. R. Vonachen and A. Sprenger, Peoria.—p. 413.

Therapeutic Use of Radium Salts.—John states that he has used radium chloride in a variety of ailments with gratifying results. Many of the cases had resisted other types of treatment but responded promptly to this therapy. He has not observed a single bad effect in any of them. The treatment is simple to administer and apparently harmless in proper dosage, and the results obtained have been permanent.

Journal of Infectious Diseases, Chicago

40: 549-628 (May) 1927

*Rheumatic Fever: Nonmethemoglobin Forming Streptococcus. K. E. Birkhaug, Rochester, N. Y.—p. 549.
*Classification of B. Coli. B. L. Monias, Chicago.—p. 570.
*Sewage Filtrate as Source of Bacteriophage. J. A. Caldwell, Dallas, Texas.—p. 575.
*Persistence of Botulinum Toxin in Discarded Canned Foods. W. A. Starin, Chicago.—p. 579.
*Impermeability of Small Intestine of Rabbits to Botulinum Toxin. G. M. Dack and W. L. Wood, Chicago.—p. 585.
Isolation, Purification and Chemical Nature of Immune Hemolysins. S. Uchida, Philadelphia.—p. 588.
Id.: Of Typhoid Antibodies. S. Uchida, Philadelphia.—p. 597.
Serum Antilysins and Methods for Their Removal. S. Uchida, Philadelphia.—p. 605.
Removal of Anticomplementary Substances with Hydrochloric Acid (Sachs' Method). S. Uchida, Philadelphia.—p. 610.
Influence of Anticomplementary Substances on Wassermann Antibody. S. Uchida, Philadelphia.—p. 615.
Skin Reactions with Pneumococcal and Other Bacterial Filtrates and Extracts. R. D. Herrold and E. F. Traut, Chicago.—p. 619.

New Streptococcus in Rheumatic Fever.—A new species of a nonmethemoglobin-forming, insulin-fermenting, bile-insoluble and toxigenic, gram-positive streptococcus was regularly isolated by Birkhaug from the tonsillar crypts and abscesses, and irregularly from the blood cultures, heart vegetations, feces and urine of persons stigmatized by rheumatic fever and its syndromes. In a study of the production of soluble toxins by streptococci isolated from rheumatic fever patients, it was found that among eighty-nine strains of *Streptococcus hemolyticus*, toxin was not demonstrated; among 247 strains of *Streptococcus viridans*, 4.7 per cent were toxin producers, and among sixty-eight strains of the nonmethemoglobin-forming streptococcus, 72 per cent were found to produce a soluble toxic filtrate, slightly weaker in potency than that produced by *Streptococcus scarlatinae* and *Streptococcus erysipelatis*. Among persons with a definite history of rheumatic fever and its syndromes, when tested intradermally with 0.1 cc. of a 1:100 dilution of the soluble toxic filtrate produced by the nonmethemoglobin-forming streptococcus, 56 per cent of adults and 76 per cent of children gave positive skin reactions, and when tested with 1:10 dilution of the toxin, 67 per cent of adults and 85 per cent of children reacted positively with lesions measuring more than 1 cm. in diameter within twenty-four hours after the injection.

Classification of Colon Bacillus.—Examination by Monias of seventy-five strains of *B. coli* gave two subdivisions: (1) strains that produce indole and creatinine (*Bacterium indolicum*), and (2) strains without these qualities (*Bacterium anindolicum*). Further subdivisions in both of these groups may be made according to their ability to ferment carbohydrates: varieties *communior, commune, aerogenes* and *acidi-lactici* corresponding to Jackson's nomenclature. A second group, *B. anaerogenes*, is characterized by the same qualities as the group *B. coli*, but differs in its inability to produce gas from carbohydrates. There are four subdivisions in this group, according to ability to produce indole and creatinine and to coagulate milk, or partial or total inability to do so. This forms a transition group between *B. coli* and *B. enteritidis*. The third group, *B. enteritidis*, differs from *B. coli* by the lack of power to coagulate milk and to ferment lactose. In this group, as in the group *B. coli*, two subdivisions are found: one with indole and creatinine production, the other without. In each of these groups there are again four classes, A, B, C, D, according to the fermentation of saccharose, raffinose and dulcitol.

Sewage Filtrate as Source of Bacteriophage.—Sewage filtrate, as tested by Caldwell with sixty-seven strains of gram-negative organisms, yields a potent bacteriophage for practically all strains of *B. coli* isolated from urinary infections, and for most of the other common gram-negative bacilli encountered in human diseases. The use of sewage filtrate as a source of bacteriophage will materially increase the number of urinary infections that can be treated with the bacteriophage, and will avoid confusion in the identification of resistant strains of bacteria.

Persistence of Botulinum Toxin in Canned Foods.—Starin states that both the A and B types of *Clostridium botulinum* are capable of producing toxin in corn, peas and salmon, that will withstand exposure to drying, light—both diffuse and direct—and seasonal variations of temperature for a period of at least ninety days. Putrefaction of vegetables and meats which were originally highly toxic does not cause a disappearance of the toxin. Peas, corn and salmon, exposed in a moist condition and highly contaminated with putrefactive organisms, yielded botulinum toxin after an interval of 122 days.

Impermeability of Small Intestine to Botulinum Toxin.—The duodenum and ileum of the rabbit were found by Dack and Wood not to be permeable to botulinum toxin. Some toxin was demonstrated in the blood from the duodenum after sixty minues, but not more than was found in the heart blood at the end of the experiment.

Journal of Urology, Baltimore

17: 395-468 (April) 1927

*Renal Tuberculosis. G. J. Thomas, Minneapolis, and T. J. Kinsella, Glen Lake, Minn.—p. 395.
*Gonophage: Bacteriophagic Principle Elaborated by Gonococcus. P. S. Pelouze and F. S. Schofield, Philadelphia.—p. 407.
Hydronephrotic Double Kidney with Bifid Megalo-Ureters. E. M. White, Chicago.—p. 439.
*Stab Wound of Kidney. H. S. Jeck, New York.—p. 449.
Intravesical Ureteral Cyst Associated with Embryonic Cartilage in Kidney of New-Born Infant: Case. C. M. Spooner and M. L. Lindsey, Rochester, Minn.—p. 453.
Technic of Extracting Ureteral Calculi and Dilating Ureter. G. M. Laws, Philadelphia.—p. 461.
Temporary Ureteral Drainage. J. A. H. Magoun, Toledo, Ohio.—p. 463.

Renal Tuberculosis.—Thomas and Kinsella assert that every patient infected with tubercle bacilli is a candidate for renal tuberculosis. The physician and the patient may not notice any symptom indicating this infection, but repeated urologic examinations, including complete urinalysis and animal inoculation, will reveal many unsuspected cases. Tissue destruction with renal tuberculosis or renal phthisis is a late lesion that is most frequently encountered by the surgeon. The diagnosis and early treatment of the renal tuberculosis may prevent the development of renal phthisis. Renal infection with tuberculosis is through the blood stream. Bilateral infection is the rule. Renal tuberculosis may end in clinical arrest or cure. Sanatorium treatment is necessary if renal tuberculosis is to be arrested or cured. This is suggested following the surgical removal of one kidney, as well as with bilateral infections.

Gonophage.—The gonococcus during its process of autolysis produces a substance that is lytic to other gonococci. Clinical experience with gonophage has convinced Pelouze and Schofield that the gonophage does have some favorable action against the disease in some persons, and that other ways of using it might give better results. The occurrence of systemic and local metastases, as well as the presence of gonococci in the urethral and prostatic secretions in some patients long after the administration of gonophage, would suggest that it does not greatly affect the body immunity processes.

Stab Wound of Kidney.—Jeck's patient developed a perinephritic abscess, and following this a suppurative posterior mediastinitis. Death was caused by a suppurative peritonitis, the result of an acute suppurative nephritis.

Southwestern Medicine, Phoenix, Ariz.

11: 203-246 (May) 1927

Congenital Valvular Obstruction of Posterior Urethra. C. S. Vivian, Phoenix.—p. 203.
Bone Tuberculosis. E. H. Brown, Phoenix.—p. 204.
Treatment of Pulmonary Hemorrhage. V. Randolph, Phoenix.—p. 208.
Sudden Death from Acute Laryngeal Obstruction of Nondiphtheritic Origin. H. Leigh, El Paso, Texas.—p. 210.
Thoracoplasty in Tuberculosis. E. W. Phillips, Phoenix.—p. 213.
Anesthesia in Chest Surgery. S. I. Bloomhardt, Phoenix.—p. 216.
Value of Roentgen-Ray Therapy in Dermatology. L. M. Smith, El Paso, Texas.—p. 218.
Bronchoscope. W. E. Vandevere, El Paso, Texas.—p. 220.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Australian J. Exper. Biol. & Med. Sci., Adelaide

4: 1-60 (March 16) 1927

Conditions Affecting Viability of Cultures of Infusoria: Allelocatalysis. T. B. Robertson.—p. 1.
*Structure of Neuron Junctions of Spinal Cord. O. W. Tiegs.—p. 25.
Supposed Distinction of Australian Aboriginals into "Straight" and "Wavy"-Haired Individuals. O. W. Tiegs.—p. 31.
Origin of Acetaldehyde in Bacterial and Animal Metabolism. M. D. Whetham.—p. 35.
*Achromobacter Perolens (n. sp.) Cause of "Mustiness" in Eggs. A. W. Turner.—p. 57.

Structure of Neuron Junctions of Spinal Cord.—Tiegs states that collaterals are recognizable within the gray matter of the spinal cord by the fact that they undergo branching, the point of branching being marked by a small triangular piece of protoplasm. Most of the collaterals thus identified, when followed along their length, emerge from the plane of the section, or become confused with other fibers. But occasionally it is possible to trace these fibrils right into the dendrites. This is taken as direct evidence in support of the view previously put forward on indirect evidence, that there is a direct neurone continuity in the spinal cord, the collaterals entering the nerve cells via the cell dendrites. No evidence for the existence of synapses branching on the outside of the nerve cells has yet been found. In support of the view that the neurofibrils are genuine cell structures, it is pointed out that under certain circumstances they may be seen in the unfixed nerve cell.

Cause of Mustiness in Eggs.—Turner is convinced that mustiness in eggs is caused by the infection of the eggs with a specific organism, *Achromobacter perolens* (n. sp.). The possibility of eggs becoming infected in the body of the fowl is remote, since the organism will not grow at the temperature of the fowl's body. Since the organism grows at room temperature, it is probable that infection takes place after the egg is laid. As the organism will grow slowly at or slightly above 0 C., it is possible that it may infect eggs in the cool stores.

British Jour. Children's Diseases, London

24: 1-82 (Jan.-March) 1927

Acute Exanthemata. J. D. Rolleston.—p. 1.
*Petit Mal or Cardiac Disturbance? G. A. Sutherland.—p. 16.
Microcephaly. T. Brushfield and W. Wyatt.—p. 24.
*Bacillary Dysentery in Aberdeen. R. Richards.—p. 31.

Tachycardia and Petit Mal.—Sutherland states that in connection with attacks suggestive of petit mal there may be present at these times a condition of tachycardia, with pulse rate over 160 a minute, without other obvious cardiac changes. An attack is often definitely induced by excitement (nervous shock) or exertion (i. e., running). While an organic basis of disease in the heart may be present, a similar condition of paroxysmal tachycardia with symptoms may occur in hearts organically sound.

Bacillary Dysentery in Aberdeen.—Richards emphasizes the fact that the occurrence of true dysentery bacilli among the general population is not so rare as is usually stated. The treatment by magnesium sulphate is almost specific for bacillary dysentery, but it must be ruthless: from 15 to 30 grains, in water, at least six times during the first day, with a daily diminishing number of doses as the symptoms begin to clear, and with a single morning dose for several days after these have all cleared. With this, diet is almost as important.

British Journal of Experimental Pathology, London

8: 93-148 (April) 1927

*Relation Between Amino-Acids and Wassermann Reaction. F. S. Fowweather and J. Gordon.—p. 93.
Lipolytic Activity of Tubercular Guinea-Pigs' Tissues: I. F. C. Happold and A. Taylor.—p. 101.
Id.: II. Relationship of Cell and Lipolytic Activity in Disease. W. Susman and F. C. Happold.—p. 106.
*Bactericidal Action of Mercurochrome. L. Colebrook and R. Hare.—p. 109.
Tungsten Arc as Experimental Source of Ultraviolet Radiation. G. L. Alexander.—p. 115.
Relationships Between Heat-Stable Agglutinogens and Sensitivity to Bacteriophage in Salmonella Group. F. M. Burnet.—p. 121.
Experimental Sensitization to Culture Filtrates of Streptococcus Scarlatinae. T. J. Mackie and D. G. S. McLachlan.—p. 129.
*Influence of Coagulation on Bactericidal Power of Blood. V. G. Walsh and D. Harmsworth.—p. 135.
*Immunity in Experimental Herpes. S. P. Bedson and G. J. Crawford.—p. 138.
*Transplantable Fibrosarcoma of Fowl. A. M. Begg.—p. 147.

Relation Between Amino-Acids and Wassermann Reaction.—In experiments in vitro and on rabbits, and in parallel determinations of blood amino-acid nitrogen and the Wassermann reaction in a number of hospital patients, both syphilitic and nonsyphilitic, Fowweather and Gordon failed to demonstrate any relation between the amino-acid content of blood and its Wassermann reaction.

Bactericidal Action of Mercurochrome.—The conflicting reports made with regard to the alleged bactericidal efficiency in vivo of mercurochrome led Colebrook and Hare to make in vitro as well as in vivo experiments. Serum derived from human blood treated with mercurochrome (from 1:40,000 to 1:10,000) did not have bactericidal power for staphylococcus or hemolytic streptococcus. Human blood (defibrinated) which had received an addition of 1:10,000 of mercurochrome had considerably less power to kill staphylococci than the same blood without mercurochrome. Bile derived from a rabbit which had been given a maximal dose (5 mg. per kilogram) of mercurochrome did not possess bactericidal power for *Bacillus typhosus*. The normal bactericidal power for *B. typhosus* possessed by the serum of this rabbit was not increased by the injection of the drug. These results suggest that no direct bactericidal effect, either in the blood stream or the bile, is likely to follow the administration of mercurochrome. They therefore do not afford support to the recommendation that the drug should be employed in septicemia and for the treatment of typhoid carriers.

Influence of Blood Coagulation on Bactericidal Power.—Walsh and Harmsworth assert that blood develops bactericidal properties during the preliminary stages of clotting that bring about the formation of thrombin.

Immunity in Experimental Herpes.—It is shown by Bedson and Crawford that recovery from infection with the virus of herpes in the guinea-pig is accompanied by the development of a general immunity to this virus, and that the serum of these convalescent guinea-pigs possesses the power of neutralizing the herpes virus in vitro. Further, it has been found possible to increase this viricidal activity of the serum by hyperimmunization, and with the hyperimmune serum so obtained to produce a definite degree of passive immunity. They have not been able to demonstrate that tissue emulsions from herpes immune guinea-pigs possessed any neutralizing power for the herpes virus in vitro.

Transplantable Fibrosarcoma.—A slow-growing fibrosarcoma of the fowl has been propagated by Begg, with living cells for four generations.

British Journal of Tuberculosis, London

21: 63-120 (April) 1927

Value of Roentgen Rays in Diagnosis and Management of Intrathoracic Tuberculosis. S. Melville et al.—p. 63.
Roentgen Rays in Sanatorium. J. E. A. Lynham.—p. 75.
Lipiodol Injections. F. G. Chandler.—p. 78.
Occupational Therapy: Adjunct in Treatment of Tuberculosis. J. B. McDougall.—p. 81.
Visit to Vejlefjord Sanatorium. F. W. Godbey.—p. 88.

British Medical Journal, London

1: 653-708 (April 9) 1927

Lister as Physiologist. C. S. Sherrington.—p. 653.
Lister as Pathologist and Bacteriologist. W. Bulloch.—p. 654.
Lister as Surgeon. B. Moynihan.—p. 656.
Lister: House-Surgeon's Memories. S. C. Thomson.—p. 659.
Case of Excision of Knee and Elbow Joints by Lord Lister. G. T. Beatson.—p. 662.
Hinged Graft for Unstable Feet. A. K. Henry.—p. 663.
Treatment of Fracture Dislocation of Ankle Joint by Three-Piece Sectional Plaster. R. W. Power.—p. 664.

1: 553-606 (March 26) 1927

*Surgical Treatment of Paralysis of Vocal Cord and of Diaphragm. L. Colledge and C. Ballance.—p. 553.
*Trauma as Cause of Auricular Fibrillation. J. Hay and H. W. Jones. —p. 559.
Ultraviolet Rays. F. Hernaman-Johnson.—p. 562.
Sporadic Bacillary Dysentery in England. G. W. N. Joseph and J. S. Manson.—p. 563.
Tonsillectomy. A. J. S. Roe.—p. 564.
Pulmonary Embolism Following Childbirth. G. W. V. Parry.—p. 563.
Ocular Symptoms During Catamenia. A. W. D'Ombrain.—p. 564.

Surgical Treatment of Vocal Cord Paralysis.—Colledge and Ballance state that the best method of anastomosis of the recurrent laryngeal nerve to the phrenic nerve, so as to obtain recovery of movement of the paralyzed vocal cord in rhythm with the movement of the normal cord, remains to be determined.

Traumatic Auricular Fibrillation.—Five cases are recorded by Hay and Jones in which fibrillation resulted from trauma; in one case the exciting factor was a powerful electric shock; in the remaining four, the exciting factor was sudden physical exertion putting an unexpected and undue strain on the heart. In four of these men there was no evidence that the heart was diseased or abnormal, and up to the onset of fibrillation they were living active, normal lives. The authors hold that the evidence justifies the view that sudden strain may, and frequently does, initiate auricular fibrillation and induce cardiac failure in men and women with diseased hearts; in fact, that fibrillation may result from physical strain in hearts that are apparently normal, so far as can be determined by ordinary clinical methods.

1: 709-750 (April 16) 1927

Heart Disease and Pregnancy. T. Oliver.—p. 709.
Professional Regrets. H. R. Andrews.—p. 712.
*Treatment of Lethargic Encephalitis. G. Eden and A. L. Yates.—p. 714.
Complete Recovery from Lethargic Encephalitis of Bulbar Type. F. W. Kemp.—p. 716.
*Experimental Production of Stone in Bladder. R. McCarrison.—p. 717.
Actinomycosis in Brain of Child. J. D'Ewart and G. D. Dawson.—p. 718.
*Pernicious Anemia in Elderly People. W. L. Templeton.—p. 719.
Aneurysm of Posterior Tibial Artery Caused by Fracture of Tibia and Fibula. M. Morris.—p. 719.
Local Anesthesia in Submucous Resection of Nasal Septum. F. P. Sturm. —p. 720.
Henoch's Purpura in Adult Simulating "Acute Abdomen." J. A. Hadley.—p. 720.
Treatment of Influenza. I. E. Reid.—p. 720.

Treatment of Epidemic Encephalitis.—It is suggested by Eden and Yates that the infection in epidemic encephalitis is a symbiotic process: In the first place the nasal mucous membrane is injured by one of the catarrhal group of organisms, and subsequently the virus of encephalitis is inhaled, passes through the injured mucous membrane, and thus enters the tissues, reaching the brain possibly by the perineural lymphatics. In support of this there is a fair amount of evidence that for the transmission of the disease from one individual to another the virus of epidemic encephalitis must fall on mucous membrane previously altered by inflammation of such a character that its power of absorption of fluids in contact with it is greatly increased. The initial injury to the nasal mucous membrane is generally remediable by treatment, and if remedied, it would appear that the virus of encephalitis cannot pass into the tissues, and patients become more susceptible to treatment by drugs. Nasal treatment aims, not at curing epidemic encephalitis, but at preventing the admission of fresh virus into the tissues. In those cases in which actual destruction has occurred in the central nervous system (a system in which regeneration is impossible), the most that can be said for washing out the nasal sinuses is that further irreparable injury is hindered, and in many cases appears to be prevented. The parkinsonian gait and posture is rarely completely removed without the use of remedial exercises.

Experimental Production of Stone in Bladder.—Stone in the bladder has been produced by McCarrison in rats by means of an ill balanced diet composed of foods commonly used by man. The stones were of the phosphatic variety. The main faults of this diet were: (*a*) absence of protein of animal origin; (*b*) deficiency of vitamin A, and (*c*) excess of earthy phosphates. To these faults there may possibly have been added a toxic action of the diet itself on the urinary tract.

Pernicious Anemia in Elderly People.—Templeton reports two fatal cases occurring in women over 70 years of age. One woman was 75 at the time of death.

Ceylon Journal of Science, Colombo

2: 1-40 (March 16) 1927

Personal Identification from Foot-Prints. G. Manwaring.—p. 1.
Travelling Medical Laboratory. L. Nicholls.—p. 9.
*Preparation of Anti-Rabies Vaccine. L. Nicholls and E. Burgess.—p. 13.
*Use of Copper Aceto-Arsenite (Paris Green) as Anopheline Larvicide. L. Nicholls.—p. 21.
Organization of Minor Anti-Anopheline Field Work. L. Nicholls.—p. 31.
Melioidosis in European. C. R. Denny and L. Nicholls.—p. 37.

Preparation of Antirabies Vaccine.—The virus used by Nicholls and Burgess has been adopted in the Indian institutes. This consists in preparing the emulsion of the brain and spinal cord with a solution of phenol (carbolic acid) of a strength which will kill the virus in twenty-four hours at 37 C., but which will not destroy its immunizing properties.

Copper Aceto-Arsenite as Anopheline Larvicide.—There are many factories in Ceylon in which various articles are manufactured from coconut fiber, and this results in the accumulation of large mounds of coir dust which is of no commercial value. The bulk of this can be sifted rapidly through a wire gauze sieve of thirty strands to the inch, and a very fine dust is obtained. A number of experiments were carried out by Nicholls to compare this diluent of paris green with road dust. It was found that a mixture containing not more than 2 per cent by weight of the paris green is both effective as a larvicide and safe so far as poisoning is concerned.

Indian Medical Gazette, Calcutta

62: 121-178 (March) 1927

Intracapsular Extraction of Cataract. H. Smith.—p. 121.
Mass Treatment for Hookworm Infection on Tea Estates in Assam. E. M. Rice.—p. 126.
Analysis of One Hundred and Eight Intravenous Iodine Injections. C. Krishnamurty.—p. 129.
Infantile Cirrhosis of Liver. M. A. K. Iyer.—p. 130.
Pharmacologic Action of Conessine, Alkaloid of Holarrhena Antidysenterica. R. N. Chopra, J. C. Gupta, J. C. David and S. Ghosh.—p. 132.
Case of Spastic Paraplegia Treated Successfully by Injection of Benign Tertian Malaria. F. H. B. Norrie.—p. 140.
Case of Quinine Intolerance. C. Krishnamurty.—p. 142.
Case of Dermatitis Exfoliata Cured by Injection of Urea-Stibamine. F. H. B. Norrie.—p. 142.
Case of Intestinal Obstruction. N. M. Ghellani.—p. 143.
Lens Opacities as Sequel to Kala-Azar. B. N. Bhaduri.—p. 144.
Pernicious Forms of Malaria at Sompeta, Ganjam District. C. Krishnamurty.—p. 144.
Foreign Body (Scorpion) in Ear. T. Seshachalam.—p. 145.
Case of Syphilis. V. G. Gopalasamy.—p. 146.
Case of Tuberculous Disease of Hip Joint. K. Ram.—p. 146.
Case of "Typholumbricosis." B. P. Banerji.—p. 146.
Fatal Case Associated with Filarial Infection. K. M. Khan.—p. 147.
Intravenous Sodium Iodide in Goiter. A. V. J. Reddi.—p. 147.
Vomiting Caused by Morphine. Y. S. Row.—p. 148.

Indian Medical Record, Calcutta

47: 65-96 (March) 1927

Physical Exercise and Medical Inspection of Indian Girls. B. B. Bose and J. Banerji.—p. 65.
Human Death. A. Macdonald.—p. 67.
Methods of Sewage Disposal: Bacterial Infection. A. P. Som.—p. 74.

Journal of Laryngology and Otology, Edinburgh

42: 221-292 (April) 1927

Nervous Affections of Esophagus. A. B. Kelly.—p. 221.

Journal of Pathology and Bacteriology, Edinburgh

30: 185-512 (April) 1927

Experimental Pneumococcal Septicemia and Antipneumococcal Immunity. H. D. Wright.—p. 185.
*Trypanosomiasis of Rabbits: Transmission. H. A. Channon and H. D. Wright.—p. 253.
Variant Colonies of Staphylococcus Aureus. J. W. Bigger, C. R. Boland and R. A. Q. O'Meara.—p. 261.
*Method of Preparing Staphylococcal Hemolysin. J. W. Bigger, C. R. Boland and R. A. Q. O'Meara.—p. 271.

*Pseudohemolytic Streptococci Isolated from Sputum in Pulmonary Tuberculosis. W. M. Cumming.—p. 279.
Phenol and Tricresol Effects in Toxin and Antitoxin Solutions. C. G. Pope.—p. 301.
*Benign Polyp of Esophagus. S. C. Dyke.—p. 309.
Primary Carcinoma of Peritoneum and Bone: Spindle Cell Carcinoma. C. P. White and C. E. Brunton.—p. 313.
Effect of Heat on Agglutination of Bacterial Emulsions. A. N. Goyle.—p. 331.
Value of Different Kinds of Antigen in Prophylactic "Enteric" Vaccines. J. A. Arkwright.—p. 345.
*Effect of Ultraviolet Rays on Rous Chicken Sarcoma. C. F. W. Illingworth and G. L. Alexander.—p. 365.
*Periodic Examinations of Streptococci of Human Throat. C. I. Fox and D. M. Stone.—p. 377.
Influence of Cultural Conditions on Production of Diphtheria Toxin. A. F. Watson and E. Langstaff.—p. 383.
*Epithelial Heterotopias of Alimentary Tract. A. L. Taylor.—p. 415.
*Paget's Disease of Nipple. R. Muir.—p. 451.
Lamb Dysentery. T. Hare and E. Glynn.—p. 473.
Use of Wild Rabbit Serum in Laboratory. W. M. Cumming.—p. 503.
Scrotal Cancer in Tamil Employed on Antimalarial Oiling. A. N. Kingsbury.—p. 504.
Action of Bacillus Typhosus in Milk. C. Gorini.—p. 505.

Transmission of Trypanosomiasis in Rabbits.—A hutch rabbit was found infected with *Trypanosoma nabiasi.* Channon and Wright studied the mode of transmission. Intravenous inoculations of infected blood into normal rabbits are not always followed by an infection. Infestation of rabbits with infected fleas was found to be a reliable method of transmitting the disease. Trypanosomes develop in the posterior station of the flea. The bite of fleas containing the developing trypanosomes is not infective but, if their alimentary canals are eaten by rabbits, infection of the blood stream follows. An attack of trypanosomiasis confers an active immunity which lasts at least six months. It was not found possible to infect rats, mice or guinea-pigs.

Preparation of Staphylococcal Hemolysin.—The method of preparing staphylococcal hemolysin described by Bigger et al. consists in suspending staphylococci from a solid medium in saline solution, and in freeing the fluid from cocci by centrifugalizing. The lysin so prepared is said to be purer than any previously described, since it is free from the various adventitious substances present in broth cultures.

Hemolytic Streptococci in Tuberculous Sputum.—Of 119 patients suffering from pulmonary tuberculosis, twenty-two were found by Cumming to have hemolytic streptococci, indistinguishable from the ordinary hemolytic streptococci of surgical practice, in the sputum. Of the 119 patients, eighty-nine have been shown to have in the sputum a streptococcus which has been termed *S. pseudohemolyticus.* This streptococcus bears marked resemblance to *S. hemolyticus,* but is easily distinguished from it and from *S. viridans* by cultural and serologic methods.

Benign Polyp of Esophagus.—The tumor described by Dyke was discovered at postmortem examination. The patient had complained of inability to swallow either solid or liquid. A diagnosis was made of a stricture, probably carcinomatous, at the level of the sixth dorsal vertebra with a dilatation just above it. A gastrostomy was performed. The patient's condition, which had been very bad at the time of the operation, became rapidly worse, and death occurred on the fourth postoperative day. At postmortem examination it was at once apparent that there was no stricture of the esophagus, which was, in fact, enormously dilated. The dilatation commenced at the level of the upper border of the cricoid cartilage and increased gradually and evenly to the level of the diaphragm, where the diameter was about 8 cm. Palpation revealed a soft mass in the lumen of the viscus, which was found to be a pedunculated polyp attached to the anterior wall of the esophagus at the level of the cricoid cartilage and extending to the cardiac orifice, through which it protruded. The length of the tumor from the attachment of the pedicle to the tip was about 20 cm. It consisted of areolar tissue similar to that normally found beneath the esophageal epithelium, with a covering of squamous epithelium identical with that lining the esophageal tube.

Effect of Ultraviolet Rays on Sarcoma.—Illingworth and Alexander endeavored to demonstrate in filtrates rendered inert by irradiation the presence of one or the other of Gye's factors, the "virus" and the "specific factor." The methods employed for inactivation of the fluids by heat, by prolonged incubation and by chloroform have been in every respect similar to those described by Gye. From the experiments described, it would appear that neither of the two factors can survive exposure to ultraviolet irradiation.

Streptococcal Content of Throat.—Fox and Stone assert that the streptococcal content of the human throat maintains a constant standard as regards both quantity and type; the only important change associated with local pathologic conditions is an invasion by hemolytic streptococci.

Epithelial Heterotopias of Alimentary Tract.—Taylor cites cases illustrating (1) the congenital heterotopias, superficial, of gastric, intestinal and duodenal type, of submucous glands, intramural cysts, adenomyomas and accessory pancreas; and (2) the acquired heterotopias of the hyperplastic and regenerative types.

Paget's Disease of Nipple.—Muir suggests that both Paget's disease and ordinary carcinoma are possible sequels of the same disease—intraduct carcinoma.

Kenya Medical Journal, Nairobi, East Africa

3: 331-360 (March) 1927

*Growth and Nutrition. J. M. Henderson.—p. 333.
Polyvalent Vaccine in Prophylaxis of Bacillary Dysentery. W. H. Kauntze.—p. 342.
*Quinine and Malaria. V. S. Hodson.—p. 349.
Anaerobic Cultivation in Single Small Tubes. F. P. G. de Smidt.—p. 354.

Heredity, Growth and Nutrition.—Henderson endeavors to show that in growth heredity plays a part as well as nutrition. Further, as regards nutrition, an adequate diet with the proper constituents in the proper proportions is of the utmost importance. There are, however, several environmental factors, such as psychic influence, exercise and sunlight, which play their parts.

Moderate Quinine Dosage in Malaria.—Hodson pleads for a moderate dosage of quinine in the treatment of malaria; 10 grains (0.65 Gm.) after breakfast and 10 grains after dinner is said to be sufficient. This dose is based on the rate of excretion, which is about 10 grains to the pint of urine. This dosage is given to a patient with an acute attack and is continued for four days, at the end of which time the patient is afebrile, no organisms are to be found in the peripheral blood, and to all appearances the cause of the illness has been absolutely controlled. At this stage, the administration of quinine is stopped for two reasons: (1) because the result of its administration has been so satisfactory, and (2) because any further immediate dosage gives rise to quininism in one of its many forms. By stopping the administration of quinine as soon as its effect has been established, time is allowed for the excretion of all the drug before its use is recommenced; there can be no possibility of organisms becoming quinine resistant and, more than that, a period is allowed during which the resistance of the individual is stimulated. Three days' freedom from quinine is the first allowance, which is then followed by a further three days of quinine administration, followed in turn by four days off. This system of giving and withholding quinine is carried on for from two and a half to three months and is varied according to its effects, which are judged at weekly or, later on, at fortnightly examinations of the patient.

Lancet, London

1: 743-804 (April 9) 1927

Lister's Contributions to Physiology. C. Sherrington.—p. 743.
Lister as Pathologist and Bacteriologist. W. Bulloch.—p. 744.
Lister as Surgeon. B. Moynihan.—p. 746.
*Muscular Mechanism of Respiration and Its Disorders. C. Briscoe.—p. 749.
*Light Treatment in Surgical Tuberculosis. H. Gauvain.—p. 754.
*Glycosuria, Complicated by Gallstones. C. D. Shapland.—p. 758.
Abdominal Abscess: Value of Antiseptics. J. O'Conor.—p. 759.
*Iodism with Edema Glottidis. N. W. Snell and L. H. Savin.—p. 759.

Muscular Mechanism of Respiration.—Certain states of mind, certain somatic and visceral stimuli, senescence and respiratory stress produce changes in the mode of breathing. These changes entail undue activity on the part of certain muscles, which activity Briscoe believes to be generally of

the nature of enhanced and persistent tonus. This occurs at the expense of the resting period of these muscles. If transient, it may not be of moment, but if persistent it will soon produce exhaustion. Activity in muscles calls for a vast increase in blood flow, and in the case of repeated movement (phasic) contractions, this is provided by direct massage to the capillaries and veins. Persistent tonic contraction, so far from helping the circulation, actually impedes, so that exhaustion ensues leading to distress. Distress is appreciated by the patient as pain, and calls for investigation and treatment.

Light Treatment of Surgical Tuberculosis.—It is urged by Gauvain that the value of general light treatment in any particular district depends only partially on the intensity and nature of the sunlight available. For some persons very intense light is the reverse of beneficial, particularly in feeble cachectic patients with little power of response. What is of greater importance is the application of varying light and other stimuli, graded and varied according to individual needs. Patients able to respond well will do well under intense stimulation, whereas for weaker, cachectic and elderly patients, great caution should be exercised and only slight stimulation is at first appropriate. The search now being made for a suitable therapeutic artificial light of constant character and intensity, readily measurable by physical means or by individual biologic responses, and constant in application, is in Gauvain's opinion illogical, and clinical evidence supports this view. Rather, he says, should the method of varying stimuli be adopted, graded to produce optimum responses in individuals who are themselves susceptible to infinite changes in reacting power. Light is a tonic both to the mind and to the body, and its effect in stimulating mental activity is one of the most interesting and not the least valuable phenomenon associated with the complex and fascinating sequelae following light treatment in surgical tuberculosis.

Low Renal Threshold in Diabetes Mellitus.—In the majority of cases of diabetes mellitus, the renal threshold for sugar becomes raised; Shapland's case is unusual in that a true defect in carbohydrate storage has been associated with a very low renal threshold. In addition, the case was complicated by a diseased gallbladder and a marked degree of overweight. The method adopted to combat acidosis by giving a diet liberal in carbohydrates but restricted in fats before the operation, with plenty of fluid, sugar and insulin, with blood sugar control for several days after operation, led to a successful issue. Eight months later, this patient was free from all symptoms of the disease; his fatigue had gone; the urine had remained sugar free, and he felt strong and well. It seems probable that the removal of the diseased gallbladder was the deciding factor in alleviating the diabetic condition.

Iodism and Edema Glottidis.—Snell and Savin relate the case of a woman who developed iodism following the administration of 15 grains (1 Gm.) of potassium iodide at night and a total of 25 grains (1.62 Gm.) the next morning. She became very dyspneic, with some obstruction to respiration. Laryngoscopy showed edema glottidis. Breathing temporarily improved; but that evening a rapid tracheotomy had to be performed, with the patient dying and unconscious. The patient recovered.

1: 805-856 (April 16) 1927

*Retained Testis in Childhood. A. H. Southam and E. R. A. Cooper.—p. 805.
*Use of Compound Solution of Iodine in Exophthalmic Goiter. L. B. Cole.—p. 812.
*Growth of Tumor in Tissues Exposed to Roentgen Rays and Radium. S. Russ and G. M. Scott.—p. 815.
Outbreak of Enteritis Near Glasgow. W. R. Wiseman.—p. 817.
Undulant Fever Occurring in England: Two Cases. J. Bamforth.—p. 818.
Meningitis Associated with B. Proteus. G. Bewley and E. S. Horgan.—p. 819.
Case of Iodism. M. Masser.—p. 820.
Postmortem Cesarean Section, with Delivery of Live Child. I. R. Rosin.—p. 820.

Retained Testis in Childhood.—Fifty cases of inguinal retention of the testis have been treated by Southam and Cooper by placing the testis in the scrotum. In thirty-six cases good anatomic results were obtained; in fourteen the treatment failed. Two cases occurred in twins; in both brothers a retained testis, accompanied by a hernial sac, was found on the right side. There was no mortality in the series.

Iodine in Treatment of Exophthalmic Goiter.—Cole endorses the administration of compound solution of iodine in the treatment of true exophthalmic goiter. From 5 to 10 minims (0.3 to 0.6 cc.) of compound solution of iodine, three times a day, is a safe and efficient dose in most cases for the first few weeks' treatment, and 5 minims may be continued safely and with benefit to some patients for six months. An increase of symptoms during treatment, however, is an indication for a smaller dose. An abnormally firm thyroid, exceptionally severe nervous symptoms, or loss of weight during the first few weeks of treatment are warnings that compound solution of iodine may be dangerous.

Radiotherapy of Tumors.—Observations made by Russ and Scott on more than 100 rats suggest that irradiation of the skin distinctly hinders the growth of the tumor.

Medical Journal of Australia, Sydney

1: 321-356 (March 5) 1927

*Dietetic Treatment of Diabetes Mellitus. R. C. Winn.—p. 321.
Mental Deficiency: Causes and Characteristics. J. Bostock.—p. 325.
Roentgen-Ray Examination of Stomach. H. M. Hewlett.—p. 328.
Clinical and Radiologic Difficulties in Diagnosis of Lesions of Prepylorus and Posterior Gastric Wall. H. B. Devine.—p. 330.
Scar in Cesarean Section: Two Cases of Rupture of Uterus. C. E. D'Arcy.—p. 333.
Method of Growing Chick Tissues in Vitro. W. Moppett.—p. 335.
Chemiotaxis in Tissue Culture. W. Moppett.—p. 336.
*Case of Systemic Blastomycosis: Formation of Myxomatous Looking Mass. J. B. Cleland.—p. 337.

1: 357-390 (March 12) 1927

Syphilis in Children: Bismuth Treatment. R. Southby.—p. 357.
Some Medical Aspects of Settlement at River Derwent (1803-1805). W. L. Crowther.—p. 370.
Wandering Endometrioma. R. Davies.—p. 373.
Amebic Dysentery Acquired in North Queensland. A. H. Baldwin, G. M. Heydon and J. A. Broben.—p. 374.

1: 391-422 (March 19) 1927

Treatment of Acute Suppurative Arthritis of Knee Joint. B. Quick.—p. 391.
Principles Underlying Treatment by Radium. C. Macdonald.—p. 398.
Radium Treatment at Women's Hospital, Melbourne, During Last Five Years. W. D. Saltau.—p. 403.
Infantile Diarrhea. R. L. Forsyth.—p. 407.
Effect of Galvanism in Treatment of Denervated Muscle. N. D. Royle.—p. 409.

Dietetic Treatment of Diabetes Mellitus.—Winn states that rest to the islands of Langerhans continues to be the essential principle in the treatment of diabetes mellitus, and this can best be secured by a moderate reduction in the diet without rest in bed and without insulin in the majority of cases. The Allen method he believes to be ineffective in emaciated patients, unnecessary in others and because of starvation (and consequent lowered resistance to infection), obnoxious and harmful in all. In the method described by Winn, the patient is examined once a week, and increases of 200 calories are made in the diet if the urine is "sugar free." By varying combinations of three "diet groups" (of 500, 600 and 900 calories), it is possible to supply completed diets ranging from 1,000 calories to any limit, with rises of from 100 up to 2,000. Just as it is the custom in lists of vegetables and fruits to strike averages for the carbohydrate content, so for meat and fish average figures have been used. Only a few exceptions and alternatives have been listed.

Systemic Blastomycosis.—The case reported by Cleland is said to be the first case since 1916. Several Australian cases of blastomycosis have been recorded. A "tumor" in the right iliac region was thought to be an inoperable sarcoma, but proved on microscopic examination to contain numbers of a yeastlike organism which was not identified.

1: 423-490 (March 26) 1927

Australasian Medical Congress Number, Dunedin, 1927.—p. 423.

1: 491-526 (April 2) 1927

*Temperature and Pulse Rate in Disease. D. W. C. Jones.—p. 491.
*Biomicroscopy of Surface Capillaries. G. E. Brown and G. M. Roth.—p. 499.
Gravimetric (King) Determination of Basal Metabolism. H. S. H. Wardlaw.—p. 506.

Temperature and Pulse Rate in Disease.—Attention is drawn by Jones to the prognostic significance of the relations of temperature and pulse rate in cases of fever, and to the importance of certain independent variations of the pulse rate in other conditions. The fever of acute infections produces a rise in pulse rate which closely corresponds with the rise in temperature; conversely, when in any case under observation rises of these characters occur, an infection is to be inferred. In cases of good resistance, in which recovery occurs without injury to the heart muscle, the pulse rate falls with the temperature. Any delay in the fall of the pulse rate relative to the temperature is in proportion to the myocardial injury done. In fatal cases, there is a steady rise in pulse rate, irrespective of the temperature. In chronic disease, febrile or afebrile, a steadily rising pulse rate indicates progressive failure. Recovery is possible in acute cases, even with grave and prolonged disturbance of the pulse temperature ratio. Study of the graphic records of temperature and pulse on parallel charts is of great assistance in prognosis, both in acute and in chronic disease.

Biomicroscopy of Skin Capillaries.—Quantitative studies on the skin capillaries in the nail-fold and in other areas of the skin have been made by Brown and Roth in a large series of normal and pathologic subjects. The capillaries in the normal subject increase in length and become narrower with advancing age. The capillary flow becomes slower in the later periods of life, and there is an increased incidence of abnormal types after the fifth decade of life. In many cases of chronic glomerular nephritis, and in certain cases of severe primary hypertension, there are definite disturbances of the flow of the capillary blood and considerable contraction of the loops. In cases of Raynaud's disease and related vasomotor disturbances, there is diminished capillary tone and evident disturbance of the capillary flow in the different color phases characteristic of the former. In cases of polycythemia vera, the surface capillaries show distention of one or both segments and many new capillaries are opened up, thus permitting a larger exposure of capillary blood than obtains in the normal skin and forms the major basis in the production of the erythrosis.

South African Med. Assoc. Journal, Cape Town

1: 129-156 (March 26) 1927

Tumor Compressing Spinal Cord: Two Cases. O. K. Williamson, J. J. Levin, A. S. Strachan and F. W. Simson.—p. 130.
Herpes Zoster and Varicella: Coincident Occurrence. F. L. Wood.—p. 137.
Lingering Labor. E. C. Crithton.—p. 138.
Surgery of Bronchiectasis. A. L. McGregor.—p. 141.
Chemistry of Urine. A. D. Stammers.—p. 143.
Mediaeval Medicine. J. G. Muterer.—p. 147.

Acta Dermatologica, Kyoto, Japan

9: 233-320 (March) 1927

Primary Urethral Carcinoma: Two Cases. A. Fukai and S. Yoshida.—p. 239.
Primary Syphilitic Sclerosis of Man and Rabbits: Comparative Histopathology. S. Watanabe.—p. 251.
*Frambesia "Reinfection": Immunologic Study. Y. Ikegami.—p. 269.
Experimental Rat-Bite Fever: Serochemical Study. K. Fujita.—p. 273.
Bismuth Preparation "Neotrepol" in Frambesia: Experimental Studies. T. Matsunaga.—p. 297.
Roentgen-Ray Therapy of Condyloma Acuminata: Histologic Changes. B. Tashiro.—p. 305.

Immunity in Frambesia.—A comparative study of the experiments with frambesia and with experimental syphilis, Ikegami says, shows that there is a difference in the mode of immunity in the two diseases. The reinfection comes out positive in syphilis only in the earliest stage of the infection, and becomes negative 100 days after infection. In frambesia, however, the reinfection comes out positive even 617 days after infection. The features presented in the two lesions in the reinfection are also different. In syphilis, the lesion due to reinfection is not in any way different from that of the first infection, although at times prolongation of the incubation period is encountered. In frambesia, the reinfection chancre is evidently milder, the incubation period being rather longer. The so-called true immunity is obtainable in the case of syphilis within from two to three months, while in frambesia the time required to produce true immunity is greatly prolonged; i. e., at least not less than twenty months.

J. Oriental Medicine, Dairen, S. Manchuria

6: 17-29 (March) 1927

*Scarlet Fever. T. Satake.—p. 17.
Venous Pressure of Rabbits. T. J. Yen.—p. 21.
Intensity of Sun's Rays in Dairen (Dalny). J. Murakami and H. Nishida.—p. 23.
Digestibility and Resorpability of Food Preparation from White Sorghum Hulls. A. Abe.—p. 25.
*Blood Diazo Reaction in Pulmonary Tuberculosis and Typhoid. T. Yamaguchi.—p. 27.
Venous Sinuses of Skull of Japanese. Y. Liu.—p. 29.

Streptococci in Scarlet Fever.—Hemolytic streptococci were demonstrated by Satake in 92 per cent of 167 early cases of scarlet fever from the mucous membrane of the pharynx; in 24 per cent of sixty-seven convalescent cases, and in thirteen cases out of the 168 normal persons in whom nothing remarkable had been seen in the pharyngeal mucous membrane. In 95.5 per cent out of the forty-four cases of scarlet fever either in the foci or in the postmortem material, hemolytic streptococci were demonstrated. Streptococci were seldom demonstrated in the circulating blood, but the results of the blood examination immediately before death showed that three out of sixteen cases gave positive results on bacteriologic examination. Satake is of the opinion that the views of the Dicks on the etiology of this disease are debatable. The etiology or the pathogenicity of scarlet fever is still to be established. Satake also recognizes a condition of "parascarlet fever."

Diazo Reaction in Tuberculosis and Typhoid.—Yamaguchi applied the diazo test in fifty-five cases of tuberculosis, and in twenty cases of typhoid. Of the former, twenty cases of a mild nature were negative. When the symptoms became more pronounced, almost all the cases became positive, and the urine diazo reaction, which previously had been negative, also became positive. When the symptoms were severe, or before death, the reaction was negative. In the course of typhoid, and during the first week, the diazo reaction in the blood was wholly negative.

Okayama Medical Journal, Okayama, Japan

446: 299-442 (March) 1927

Commissural Fibers Between Deiters' Nuclei and Between Bechterew's Nuclei in Rabbits. I. Yoshida.—p. 299.
*Substance Resembling Insulin Isolated from Appendix of Rabbit Made Experimentally Hyperglycemic. K. Misaki.—p. 306.
Bile Acids of Bile of Muraenesox Cinereus and Pagrosomus Major. T. Hosokawa.—p. 311.
Anomalies of Regulation of Blood Sugar After Deep Roentgen-Ray Irradiation. J. Hisamoto and M. Takeshima.—p. 332.
*Cartilage and Bone Deposits in Tonsil in Keratosis Pharyngis. F. Tanaka and D. Oda.—p. 345.
Cerebrospinal Tract of Birds. T. Kuwabara.—p. 351.
Action of Scillaren: II. Diastolic Effect. H. Utsunomiya.—p. 388.
Determination of Fibrin in Blood in Various Dermatologic and Urologic Affections. A. Fujiwara.—p. 399.
Pharmacologic Study of Several Sympathomimetric Amines. M. Fujita.—p. 427.

Insulin-Like Substance Obtained from Appendix.—An insulin-like substance was extracted by Misaki from the mucous membrane of the appendix. It was not found in the mucous membrane of the stomach or small intestine. This substance definitely lowered the blood sugar content of a normal rabbit made hyperglycemic experimentally. The author believes that this substance comes from the pancreas, and aids in the formation of glycogen and in the regulation of the sugar metabolism.

Cartilage and Bone Deposits in Tonsil.—Tanaka and Oda regard the blood calcium as being an important factor in these cases, three of which are reported by them.

Sei-I-Kwai Medical Journal, Tokyo, Japan

44: 1-9 (March) 1927

Saiki and Fujimaki's Vitamin A Deficient Diet. Y. Fujimaki, T. Kimura, Y. Wada and S. Shimada.—p. 1.
Antibodies: Immune Hemolysin. S. Uchida.—p. 6.
Situs Inversus Partialis with Malformation of Heart. M. Sakurai.—p. 9.

Bulletin de l'Académie de Médecine, Paris

97: 545-582 (May 3) 1927

*Tuberculosis and Poisoning with War Gas. E. Sergent.—p. 545.
*Effect of the Purification of Insulin in Favoring Phenomena of Hypoglycemia. H. Chabanier et al.—p. 577.

Tuberculosis and Poisoning with War Gases.—Sergent rarely observed tuberculosis among the immediate complications of poisoning with war gases. On the other hand, he noted that the tardy occurrence of tuberculosis in war veterans is more and more frequent every year. The author ascribes the fact to chance factors which favor the awakening of the disease, and does not connect it with gas poisoning. Of forty-eight veterans of the world war recently reexamined, twenty-two have a history of grave gas poisoning. They present chronic lesions of the respiratory organs; so far, none suffers from tuberculosis. Twenty-six have tuberculosis, which developed from three to eight years after the occurrence of an insignificant gas poisoning. The respiratory lesions of the first group appeared under the form of chronic bronchitis, bronchopulmonary sclerosis, emphysema, bronchiectasis or asthma-like dyspnea. So long as tubercle bacilli are not found in the sputum, or inoculation of guinea-pigs with the sputum is negative, the lesions are not considered as tuberculous.

Rôle of Purification of Insulin Preparations in Phenomena of Hypoglycemia.—Chabanier, Lebert, Lobo-Onell and Lumière assert that the morbid phenomena of hypoglycemia observed sometimes in the course of insulin treatment occur only with highly purified insulin. About 600,000 injections of a slightly purified insulin were used by the authors in diabetic patients cured of glycosuria, and in nondiabetic patients with atonic ulcers. Phenomena of hypoglycemia developed in a minimal number of cases, from occasional causes. The relatively high percentage of hypoglycemia reactions in the American statistics is attributed to the use of highly purified insulin. Foreign substances contained in the nonpurified insulin seem to reduce its hypoglycemia-inducing effect.

Bulletins de la Société Médicale des Hôpitaux, Paris

51: 491-565 (May 5) 1927. Partial Index

*Surgical Mask in Prevention of Contagion. Armand-Delille.—p. 523.
*Note on Treatment of Anaphylactic Diseases with Peptone. Chiray.—p. 525.
*Peptone in Treatment of Anaphylactic Diseases. Pasteur Vallery-Radot and P. Blamoutier.—p. 527.
*Etiology of Arteritis Obliterans with Intermittent Claudication. C. Lian et al.—p. 534.
Phrenicotomy for Tuberculous Lesions in the Pulmonary Apex. R. Burnand et al.—p. 542.

A Simple Preventive Measure Against Tuberculosis and Infectious Diseases in Children.—Armand-Delille suggests that tuberculous patients should wear a cloth mask (surgical mask) over the mouth when they are being auscultated. He believes that this measure may save many members of the medical profession from tuberculous reinfection. The method has been tried in children with measles. The mask was applied when the children were moved from the measles ward to other parts of the building for roentgenologic or laryngologic examination, or for ultraviolet-ray treatment. Armand-Delille is persuaded that the measure arrested the spread of the disease.

Note on Injections of Peptone in Treatment of Anaphylactic Phenomena.—Intradermal injections of peptone by the Pasteur Vallery-Radot and Blamoutier method, were employed by Chiray in three cases of hay-fever and in two cases of essential asthma. The results, he asserts, are encouraging. He emphasizes that one series of injections is usually insufficient, and that successive series may not exert any effect.

Intradermal Injections of Peptone in Treatment of Anaphylactic Diseases.—Pasteur Vallery-Radot and Blamoutier recommend the use of intradermal injections of peptone in treatment of anaphylactic phenomena of the respiratory type. Three years' experience has taught that the treatment succeeds chiefly in cases of hay-fever and of essential asthma. In the former it induces notable improvement; sometimes even cure. The injections should not be begun before the coryza sets in, their preventive action being nil. The peptone treatment is beneficial in cases of essential asthma in which the attacks are frequent. The injections should be administered during the attack. Patients thus treated were able to resume their usual occupations. Patients with spasmodic coryza improved; but the relief was of short duration. Fifty grams of peptone are mixed with an amount of water sufficient to make up 100 cc. The first injection consists of 0.1 cc. of the solution, the second, of 0.2 cc.; the following, of 0.3 cc. The last dose is never exceeded. The injections are given every day; a series consists of twenty injections. The solution must be injected into the skin; introduced beneath the skin, it may cause a phlyctena and consequent slough. The normal local reaction is represented by a papule surrounded by an erythematous zone. It disappears in about a week.

Etiology of Arteritis Obliterans with Intermittent Claudication.—Lian, Puech and Viau's study of the etiology of this disease is based on fifty-two personal cases. In rare cases the cause is an acute or a chronic infection or an autointoxication, such as diabetes or gout. Nutritional disturbances, occurring about the age of 50, are an important factor. The rôle of syphilis is insignificant, while that of tobacco is considerable. So-called Buerger's disease, the authors say, cannot be considered as a pathologic entity. It is a clinical form of arteritis obliterans, occurring most frequently in Jews of Central Europe.

Journal de Chirurgie, Paris

29: 129-256 (Feb.) 1927

*Operations on Glands Involved in Cancer of the Colon. H. Lorin.—p. 129.

Surgical Treatment of Glands Involved in Cancer of the Transverse and Descending Colons.—Lorin gives a detailed description of the normal lymphatics and glands of the transverse and of the descending colons. He discusses the character and location of lesions occurring there in the course of cancer. The part of the lymphoglandular system that should be removed corresponds to the seat of the cancer in the colon. Operative methods for the different locations are suggested.

Médecine, Paris

8: 243-320 (Jan.) 1927

French Ophthalmology in 1926. A. Cantonnet.—p. 243.
*The Normal and Pathologic Mariotte Spot. F. Terrien.—p. 249.
Diagnostic Value of Changes in the Visual Field. A. Chevallereau.—p. 254.
Results of Lacrymal Rhinostomy. Aubaret.—p. 259.
Rôle of Pneumococcus in Pathology of the Eye. A. Monbrun.—p. 262.
*Mercury in Treatment of Myopic Choroiditis. De Saint-Martin.—p. 268.
The Marcus Gunn Phenomenon. M. Joltrois.—p. 272.
*Blindness in the New-Born. P. Bretagne.—p. 274.

Modifications of Mariotte's Spot in Various Eye Diseases.—Terrien emphasizes the changes in the blind spot observed in myopia, choked disk and glaucoma. In severe myopia, the spot is greatly enlarged; it is surrounded by a zone of partial blindness. The larger this zone is, the less favorable is the prognosis of the myopia. Enlargement of both Mariotte spots confirms diagnosis of cerebral tumor. In glaucoma, an arcuate scotoma develops between the blind spot and the fixation point. This scotoma appears early, when the visual acuity and the peripheral visual field are still normal. Scotoma of glaucomatous origin is reduced by the action of pilocarpine; other scotomas are not influenced by the drug. In optic neuritis, reduction of central vision and of central scotoma is associated with enlargement of the blind spot. In this case, miotics are without effect on the changes in Mariotte's spot.

Value of Mercury Treatment in Myopic Choroiditis.—De Saint-Martin uses mercury cyanate in treatment of macular choroiditis complicating severe myopia. In three of four cases described, the central scotoma and the macular focus disappeared. A notable improvement was manifest in the fourth case. Intravenous injections are preferred to inunctions. A series of twenty injections must sometimes be repeated.

Partial Blindness of Congenital Origin.—Bretagne calls attention to a form of congenital blindness in the newborn, not accompanied by any apparent changes in the eye. The light reflex and the dilatation of the pupils are almost normal. The base of the eye is unchanged. At the age of seven months, the infants acquire partial sight. The visual defect is associated with signs of physical and mental debility. These cases should not be confounded with those of blindness from congenital cataract, or with those of temporary blindness from meningeal disease. So far, the histologic lesions are uncertain. They are evidently located in the optic tract or in the cortical centers.

Presse Médicale, Paris

35: 561-576 (May 4) 1927

Results of Surgery for Relieving Pain. R. Leriche.—p. 561.
Roentgenotherapy of Lichen Planus. A. Zimmern and P. Cottenot.—p. 564.
Clinical Value of Hyperpnea Test. P. Pagniez.—p. 564.

35: 577-592 (May 7) 1927

Pathogenesis of Pregnancy Pyelonephritis. Lévy-Solal et al.—p. 577.
Diagnosis and Prophylaxis of Fluorin Poisoning. H. Cristiani.—p. 578.
*Vasoconstrictor and Vasodilator Substances in Therapeutics. C. Abadie.—p. 579.

Therapeutic Value of Vasoconstrictor and Vasodilator Substances.—Abadie lists some of the diseases which result from vascular disturbances, justifying vasoconstrictor or vasodilator treatment. In glaucoma, instillations of atropine reduce the vasodilatation in the eye vessels; this brings about improvement. In case of optic atrophy, atropine is without effect. Spasms of the central artery of the retina may cause blindness in one or both eyes. Injection of 0.001 Gm. of atropine into the orbit or beneath the conjunctiva improves spasmodic optic atrophy; it does not influence optic atrophy of organic origin. Among auditory diseases, Menière's vertigo appears to be due to an intensive vasodilatation of the auricular arteries. The favorable action of vasoconstrictor substances confirms the theory. In herpes of the ophthalmic nerve, the vesicles, phlyctenas and pustules developing on the forehead are explained by vasodilatation of the supraorbital arterioles, provoked by the herpetic virus. Generalized pemphigus results from vasodilatation of arterioles in the skin. A case of grave generalized pemphigus was cured with vasoconstrictor treatment. Epinephrine combined with ergotin and calcium chloride is recommended in cases in which vasodilatation is responsible for the lesions.

35: 593-608 (May 11) 1927

*Coronary Theory of Angina Pectoris. A. Clerc.—p. 593.
Systematization of Sympathetic Nerves of Organs. J. Delmas.—p. 596.

Theory of Coronary Origin of Angina Pectoris.—Clerc discusses at length the various theories of the pathogenesis of angina pectoris. He distinguishes a functional angina pectoris which is the result of hyperesthesia or is a manifestation of mental disturbance. Organic angina pectoris, especially the angina of effort, is caused by lesions and obstruction in the coronary arteries. This may cause sudden death from ventricular fibrillation. Otherwise it results in local anemia with consequent motor disturbances and spasms in the coronary arteries.

35: 609-624 (May 14) 1927

Alimentary Glycosuria in Diagnosis of Cancer of the Digestive Tract. P. Le Noir et al.—p. 609.
*Sensation of Electric Discharge in Multiple Sclerosis. J. Lhermitte et al.—p. 610.
*Contraindication to Curettage in Uterine Fibroma. R. Leibovici.—p. 613.

Sensation of Electric Discharge as an Early Sign in Multiple Sclerosis.—Lhermitte, Lévy and Nicolas call attention to an early sign of multiple sclerosis consisting in a recurring sensation of an electric discharge, similar to that from the faradic current. It is perceived in the vertebral column and in the extremities. The phenomenon occurs exclusively on active or passive bending of the head or of the trunk, never during sleep or rest. A similar sensation is felt by patients with lesions following concussion of the spine. In both conditions the sensation is due to mechanical irritation of axis-cylinders deprived of their myelin. During bending, elongation of the spinal cord and its compression against the vertebrae causes the irritation.

Contraindication of Curettage in Case of Uterine Fibroma.—Leibovici emphasizes the fact that fibroma favors the occurrence of abortion. In case of hemorrhage or retention of the placenta, curettage should never be used, especially if the fibroma is situated beneath the uterine mucosa. Denudation of the fibroma may aggravate the hemorrhage or cause infection of the tumor. Vaginal fibromectomy performed in the course of an infection is extremely dangerous. Total hysterectomy by the abdominal route is the rational operation.

Schweizerische medizinische Wochenschrift, Basel

57: 313-336 (April 2) 1927

Joseph Lister. C. Kaufmann.—p. 313.
Physical Development and Campaign Against Minus Variants. H. W. Itten.—p. 315.
*Collective Suggestion in Insane Asylums. A. Repond.—p. 322.
"Nervous Complications of Chickenpox and Smallpox." E. Glanzmann.—p. 325.
*Barbital. L. Schwartz.—p. 326.
Influenza with Epidemic Hiccup. T. Zangger.—p. 326.

Collective Suggestion in Insane Asylums.—Repond believes that the various excentric manifestations of negativism in schizophrenic patients are chiefly, if not exclusively, provoked and kept up by the opposition of the patient to injurious surroundings and by insufficient psychologic treatment. The unpleasant general conditions of the asylum are not apt to awaken the taste for reality in these patients, who find in their autism a comfortable escape from such surroundings. Criminal insane inmates easily infect the whole institution. An incompetent nurse may, in a few days, create a generally hostile atmosphere. Suggestion from the outside is another factor which favors entertainment of the collective suggestion that is unfavorable to treatment. The asylums must be transformed into real hospitals with pleasant exteriors and interiors. Wards should never contain more than fifteen patients. The criminal psychopaths should be kept in special institutions, and the physicians should have more authority.

Barbital.—Schwartz's patient, a woman 81 years of age, took 150 Gm. of barbital within eighteen months because of neurasthenia provoked by a cataract. After that the cataract was extracted and the patient slept well without any craving for the drug.

Pediatria, Naples

35: 345-400 (April 1) 1927

*Vaccine Treatment of Malta Fever. M. Giuffrè.—p. 345.
Treatment of Leishmaniasis. F. Graziano.—p. 359.
Histamine Test of Gastric Function. A. Coari.—p. 365.
Friedlander Bacillus Meningitis. F. Papandrea.—p. 371.
Associated Leishmaniasis and Malaria. B. Vasile.—p. 376.

35: 401-456 (April 15) 1927

Pneumococcus Peritonitis. M. Bergamini.—p. 401.
Blood Groups in Sicily. F. Minore.—p. 431.
Adenoids and Enuresis. E. Di Lauro.—p. 437.
Acute Polyarthritis. F. De Angelis.—p. 440.

Vaccine Treatment of Malta Fever.—Giuffrè recommends intravenous injection of the vaccine, dissolved by the action of the antiserum.

Policlinico, Rome

34: 487-522 (April 4) 1927

*Achorion in the Blood. G. A. Ambrosoli.—p. 487.
Echinococcus Cyst of the Omentum. G. Ciaprini.—p. 489.
Wright's Seroreaction. A. Barbieri.—p. 492.

Achorion in the Blood.—Ambrosoli cultivated the exciting organism from the blood in a favus patient.

34: 523-558 (April 11) 1927

Blood Groups in Trieste. M. Goldstein.—p. 523.
Cesarean Section in Eclampsia. L. Tomasi.—p. 526.

34: 559-594 (April 18) 1927

*Activation of Wassermann Reaction in Vitro. V. Giudiceandrea.—p. 559.
Pernicious Malaria with Bulbar Syndrome. B. De Luca.—p. 561.
Gynecomastia in Cirrhosis of the Liver. D. Zanalda.—p. 564.

34: 153-216 (April 1) 1927. Medical Section

Lead Nephritis. F. Battaglia.—p. 153.
Myxosarcoma of the Kidney in a Child. L. Sabatini.—p. 185.
Melanosarcoma Metastases in the Glomeruli. P. S. Mariconda.—p. 194.
Fasting Secretion of the Stomach. V. Debenedetti.—p. 200.

34: 153-204 (April 15) 1927. Surgical Section

Sarcoma of the Appendix. E. Capecchi.—p. 153.
Surgery of Tropical Abscess of the Liver. F. P. Cassitto.—p. 164.
Diagnosis of Silent Hypernephroma. G. Nisio.—p. 182.
Fibrosarcoma of the Ovary. G. Zampa.—p. 199.

Activation of Wassermann Reaction in Vitro.—Giudiceandrea dilutes the serum with three parts of an 0.85 per cent solution of sodium chloride and one part of 95 per cent alcohol (instead of with four parts of sodium chloride solution).

Riforma Medica, Naples

43: 289-312 (March 28) 1927

Meinicke Test. E. Meinicke.—p. 289.
*Hippocratic Fingers. A. Roncato.—p. 291.
Auto-Enterovaccine in Dermatology. P. G. Castellino.—p. 300.
Diphtheritic Marasmus. L. Martino.—p. 309.

Hippocratic Fingers.—Roncato found a low arterial and high venous pressure in all his five patients with hypertrophic ostearthropathy. The amplitude of the capillary pressure was greater than in normal individuals.

43: 313-336 (April 4) 1927

Blood Pressure Determination. W. Janowski.—p. 313.
Streptobacillus Vaccine. E. Tarantelli.—p. 316.
*Spirochetes and Hemoptysis. G. Bondolfi.—p. 321.
*Dextrose in Roentgen-Ray Treatment of Cancer. C. Guarini.—p. 323.
Periduodenitis and Neuroses. A. Jona.—p. 332.

Spirochetes and Hemoptysis.—Bondolfi failed to find evidence of special spirochetes occurring in hemoptysis in tuberculosis subjects, as claimed by Etchegoin and Besançon.

Dextrose in Roentgen-Ray Treatment of Cancer.—Guarini observed focal reaction and subsequent improvement in cancer after intravenous injections of dextrose. He is continuing his studies to verify the results of other authors from combining such injections with roentgen-ray therapy.

Revista Médica del Uruguay, Montevideo

30: 127-190 (March) 1927

Roentgen-Ray Diagnosis of Pneumonia. L. Morquio.—p. 127. C'cn.
*Erythema Caused by Cologne. J. Brito Foresti.—p. 155.
Clinical Importance of Blood Viscosity. J. Garcia Otero.—p. 166. C'td.

Erythema Caused by Cologne.—In about forty cases studied by Brito, the use of cologne had caused the development of persistent red spots. The offending ingredient has not been determined as yet. The patients included children and adults. The spots disappeared spontaneously after a few months. Uriburu, Vignale and Sommer had previously noted the phenomenon in Argentina and Uruguay.

Semana Médica, Buenos Aires

34: 897-956 (April 14) 1927

Exceptional Cases of Pneumothorax. R. A. Izzo and O. P. Aguilar.—p. 897.
Demelin Forceps. S. E. Bermann.—p. 911.
*Biologic Test for the Ovarian Hormone. E. de Chapeaurouge et al.—p. 929.
Insulin in Eczema. R. Barralt.—p. 932.
Etiology and Treatment of Appendicitis. M. Loubiere.—p. 933.
Periodic Vomiting with Acetonemia. J. Orrico.—p. 938.
The New Mother. A. I. Sosa y Sánchez.—p. 946.

Biologic Test for the Ovarian Hormone.—In the castrated rat, state Chapeaurouge and associates, rut ceases and the typical scales fail to develop again. However, if a follicular or ovarian extract, containing the hormone, is injected, rut appears within 100 hours. The shedding stage (heat) offers a specific biologic test for the ovarian hormone. The authors succeeded in preparing the hormone in a perfectly clear aqueous solution, thus confirming Zondeke, Brahm and Laquer's work and disproving Allen and Doisy's assertions.

Archiv für Kinderheilkunde, Stuttgart

81: 1-80 (April 14) 1927

Action of Ultraviolet Rays. H. Koeppe.—p. 1.
Gas Bacillus Infection Simulating Melena. E. Nedelmann.—p. 6.
Pyuria. R. Herbst.—p. 11.
*Quinine-Fast Liver Lipase in Serum in Congenital Syphilis. M. Frank and L. Schrötter.—p. 29.
Specific Dynamic Action in Children. W. Hilsinger.—p. 36.

Quinine-Fast Liver Lipase in Serum in Congenital Syphilis.—Frank and Schrötter found quinine-resistant lipase in the blood serum of infants with congenital syphilis with cutaneous manifestations. It was not always present with slight clinical changes in the liver.

Deutsche medizinische Wochenschrift, Berlin

53: 643-686 (April 15) 1927

Action of Roentgen Rays on Cells. W. Scholtz.—p. 643.
*The Blood After Injection of Water. E. Wollheim and F. Brandt.—p. 646.
*Intracutaneous Injections for Pain. F. Walinski.—p. 647.
Striatal Disturbances of Locomotion. S. Tannhauser.—p. 649.
P_H of the Cerebrospinal Fluid. K. Eskuchen and F. Lickint.—p. 651.
Bleeding Tendency from Nervous Exhaustion? O. Müller.—p. 655.
Vacuum Gastroscopy. W. Sternberg.—p. 656.
Protrusion of Pyloric Antrum. L. Alkan.—p. 656.
Treatment of Hemorrhoids with Alcohol Injections. H. Elsner.—p. 657.
Progressive Lipodystrophy. Haensel.—p. 658.
Diabetes in Pregnancy. Kronenberg.—p. 660.
Treatment and Manifestations of Syphilis. J. Barnewitz.—p. 661.
Ophthalmology in 1926. P. Junius.—p. 662.
History of Professional Problems. O. Stahl.—p. 666.
Surrender of Case Histories to Public Authorities. M. Rosenfeld.—p. 667.

The Blood After Injection of Water.—Wollheim and Brandt injected intravenously 10 cc. of distilled water or of a 0.2 per cent solution of dextrose. Except in grave cases of contracted kidneys, the blood became diluted in from one to two hours, the chlorides of the serum increased and the amount of circulating blood decreased by from 20 to 40 per cent (trypan red method). Normal blood pressure did not change, while increased blood pressure fell by from 20 to 40 mm. of mercury. These changes are similar to those following venesection. They observed permanent lowering of the blood pressure in four out of thirteen patients with essential hypertension and in two out of six patients with nephritis. The injections were given four times a week for from three to six weeks.

Intracutaneous Injections Against Pain.—Falinski injected 1 cc. of an iso-ionic solution (resembling Ringer's) intracutaneously at five points at least 2 cm. apart (0.2 cc. in each). The injections were repeated after from three to four days. He observed alleviation or disappearance of various pains in 90 per cent of his patients (neuralgia, ulcer of the duodenum, neurosis of the heart and myalgia).

53: 687-734 (April 22) 1927

Epidemiologic Research. F. Neufeld.—p. 687.
*Pituitary Extracts in Cholelithiasis. C. Garrè.—p. 690.
*Surgery of Pituitary Tumors. F. Krause.—p. 691.
*Surgery of Recurrence of Brain Tumor. V. Schmieden and H. Peiper.—p. 694.
Surgery of Chronic Peptic Ulcer. F. König.—p. 697.
Temporary Sterilization of Women. H. Sellheim.—p. 698.
The General Practitioner and Roentgen-Ray Treatment. Wintz.—p. 700.
Larvated Endocrine Disturbances. B. Kugelmann.—p. 702.
Technic of Synthalin Treatment. E. Mosler and W. Feuereisen.—p. 704.
Rickets and Ergosterol. F. Holtz.—p. 706.
Infectious Rheumatism. S. Gräff.—p. 708. C'td.
Experiments with Antivirus. B. Lange.—p. 714.
Insulin Production After Ligation of Pancreatic Ducts. G. Herxheimer.—p. 715.
Inhalation of Carbon Dioxide in Surgery. A. Dzialoszynski.—p. 716.
The Law Concerning Venereal Disease. Elwert.—p. 716.
Liek's Medical Mission. J. Schwalbe.—p. 717.

Pituitary Extracts in Cholelithiasis.—Garrè does not believe that it is possible to drive out a calculus from the gallbladder or cystic duct by injecting pituitary extract.

Surgery of Pituitary Tumors.—Krause decidedly prefers surgery to roentgen-ray treatment of tumors of the pituitary gland, especially because it is still uncertain whether the roentgen rays may not injure the chiasma. Decompression acts favorably upon all symptoms. He mentions a case in which a severe arterial bleeding compelled him to discontinue the operation after having merely cut into the capsule of the tumor. In spite of this, the patient's vision improved and the acromegalic symptoms and the impotence disappeared.

Surgery of Recurrence of Brain Tumor.—Schmieden and Peiper maintain that recurrent cerebral tumors should be extirpated, repeatedly if necessary.

Deutsche Zeitschrift für Chirurgie, Leipzig

200: 1-620 (March) 1927

Restoration of Voice After Operation on the Larynx. E. Küster.—p. 1.
A Half Century of Fracture Treatment. H. Helferich.—p. 10.
*Operation of Brain Tumors. O. Hildebrand.—p. 16.
*Encephalitis and Its Consequences. Tilmann.—p. 26.
*Injury to the Skull from Electric Current. E. Ranzi et al.—p. 36.
Value of Iodized Oil Injection. Von Eiselsberg.—p. 53.
Nerve Regeneration, Jacksonian Epilepsy and Occupational Cramps. R. Lozano.—p. 60.
*Surgery of Pruritus. H. Küttner.—p. 71.
Operations for Cleft Palate. E. Lexer.—p. 109.
*Denervation of the Heart. Enderlen and Bohnenkamp.—p. 129.
Arterial-Venous Fistulas in the Development of Plexiform Angiomas. G. Perthes.—p. 141.
Closed Intrapulmonary Bronchial Cyst. P. Clairmont.—p. 157.
*Treatment of Bronchiectasis. J. H. Zaaijer.—p. 170.
*Origin of Pulmonary Emphysema. R. Nissen.—p. 177.
Operation for Pulsion Diverticulum of the Esophagus. M. Martens.—p. 206.
*Surgical Treatment of Gastric and Duodenal Ulcers. H. Haberer.—p. 212.
Invagination of the Stomach. V. Schmieden and H. Westhues.—p. 251.
Duodenojejunal Diverticulum Causing Acute Intestinal Occlusion. A. Krogius.—p. 273.
*Prognosis of Operation for Gallstones. W. Anschütz.—p. 284.
Active or Expectant Attitude in Gallstones Attack? R. Stich.—p. 302.
*Primary Chronic Appendicitis. E. Payr.—p. 307.
*Origin of Acute Appendicitis. C. Ritter.—p. 364.
Origin and Histology of Old Intra-Abdominal Fistulas. M. Gerulanos.—p. 388.
Radical Operation of Umbilical Hernia. H. Schloffer.—p. 398.
The Two or Three Layer Suture of the Abdominal Incision in the Middle Line. Kirschner and Melzner.—p. 410.
Diagnosis of Tumors of the Ureter. E. Key and Å. Åkerlund.—p. 428.
Surgical Treatment of Traumatic Contracted Bladder with Vesicovaginal Fistula. T. Naegeli.—p. 445.
*Treatment of Prostatic Hypertrophy with Injection of Animal Blood and Roentgen Rays. A. Hintze.—p. 450.
Treatment and Healing of Compound Fractures. F. König.—p. 476.
Early Stages of Osteitis Fibrosa. P. Frangenheim.—p. 484.
Injuries of the Crucial Ligaments of the Knee. A. Wittek.—p. 491.
Surgical Treatment of Severe Suppurations of the Knee. A. Läwen.—p. 516.
Rapidity of Tumor Growth. Guleke.—p. 524.
*Influence of Diet on Wound Healing. A. Herrmannsdorfer.—p. 534.
*Lead Poisoning from Retained Projectiles. Habs.—p. 584.
Fractional Hand Sterilization. R. Klapp et al.—p. 606.
My Method of Teaching Surgery. J. Dollinger.—p. 613.

Dangers and Difficulties of Operations on Brain Tumors.—Brain surgery does not present particular dangers as regards hemorrhage or infection, Hildebrand asserts, and the anesthetic risk can be greatly reduced by using local anesthesia, especially since anesthesia is needed only for the operation on the skull. The permanent results from operations on brain tumors are not, however, cheering. Neither gliomas nor sarcomas (whether the latter arise from the meninges or from the brain itself) can be removed without grave danger of recurrence. Roentgenotherapy after exposure is the best treatment. Peritheliomas or endotheliomas offer better prospects. A glioma situated in a ventricle (a very rare location) is circumscribed and may be removed entire, but in this case the primary danger of the operation is great. Fatal collapse not infrequently follows operation on tumors of the cerebellopontile angle, without a clear cause being assignable. The collapse is probably due to changes in intracerebral pressure, failure of the blood supply to the medulla oblongata or interference with the respiratory center. Attempts to remove these tumors, as also the more or less pedunculated or free tumors of the cerebellum, should be made, in spite of the dangers of the operation. Hildebrand has operated on twelve cerebellopontile angle tumors, with 50 per cent mortality.

Encephalitis and Its Consequences.—Tilman believes that trephining should be done as early as possible in all acute cases, both to cut short the disease and to prevent sequelae. He reports briefly ten cases of encephalitis, in four of which postencephalitic epilepsy or paresis, of from seven to seventeen years' standing, was cured or improved by operation. He has observed that the disease is more likely to occasion epileptic symptoms when the focus is near the cortex. In deep seated processes, there is danger of perforation into the ventricle.

Skull Injury from Electric Current.—The case described by Ranzi, Mayr and Oberhammer is that of a man injured by an electric current while at work in an electric locomotive. The current entered the body above the right ear and passed out at the vertex, a little to the left. He was removed unconscious, but had recovered consciousness at the end of seven hours. The wounds were treated conservatively. In each the skin necrosis progressed and the bone became exposed. A month after the injury, epileptic attacks set in, with paresis of the right side of the face and the right upper extremity. Four operations were performed, at which epidural, subdural and brain abscesses were opened and the diseased bone cleaned away. Streptococci and pneumococci were found in the pus from the abscesses in the brain. The patient died two months after the injury. On microscopic examination the bone showed rarefying, sequestrating osteomyelitis, the necrosis limited by granulating inflammation. The authors suppose that the electric current killed bone cells, which thus became a fit field for infection by extension from the suppurating soft parts. They advise active treatment, with early trephination, in cases in which the bone necrosis progresses rapidly and intracranial complications are to be feared.

Surgery of Pruritus.—Total extirpation of the diseased region was performed successfully by Küttner in two cases in which the pruritus was confined to the prepuce. Others have applied the principle to pruritus ani and pruritus vulvae with good results. Interruption of nerve conduction by injection of sodium chloride or of a local anesthetic, by incisions designed to lift the skin from the subcutaneous tissue, by nerve section (personal case, pruritus auricularis, described and illustrated) and by resection of the nerve root is discussed. The literature contains a number of observations of operation on the sympathetic for relief of pruritus, but periarterial sympathectomy seems to have been tried only once, and then without sucess.

Experimental Denervation of the Heart.—In three dogs, the cardiac nerves together with the stellate ganglion were excised close to the heart. It appeared from the experiment that the extracardiac innervation of the heart is more extensive than the macroscopically visible nerves would lead one to suppose. At the end of a year, an extracardiac influence on the heart (other than by the body fluids) could be demonstrated. While cardiac insufficiency was not observable when the animals were at rest, it was apparent when they ran. Thyroidin was without influence on the denervated dogs, while in control animals it caused tachycardia. Two normal dogs fed on thyroidin died with emaciation, while the denervated dogs remained well.

Treatment of Bronchiectasis.—On a girl, aged 16, who had bronchiectasis of the lower lobe of the left lung, and in whom internal treatment had failed, Zaaijer first performed rib resection with removal of the periosteum and the intercostal musculature. The result was unsatisfactory. Exeresis of the phrenic nerve was then done, but without success. His next procedure was to expose the diseased lower lobe, free it from all attachments except at the hilus and isolate it with tampons, ready for extirpation or resection at a later sitting. To his surprise, another operation was not necessary, the expectoration stopped entirely and permanently after fourteen days. Tamponade was continued, the lobe became smaller and smaller, the cavity diminished in size and the skin margins drew ever nearer to the deepest point of the cavity. A roentgenogram shows the lower lobe completely obliterated, and the upper containing air. Clinically the patient is entirely cured. Zaaijer proposes the following sequence of operations for lower lobe bronchiectasis; after any one of them cure may result; furthermore, each one lessens the danger of the following procedure: 1. Exeresis of the phrenic nerve. 2. Extensive rib resection over the disease focus, with removal of the periosteum and intercostal musculature. 3. Intrathoracic isolation of the diseased lobe by tamponade. 4. Incision, resection or extirpation of the diseased lobe.

Experimental Researches on the Origin of Pulmonary Emphysema.—Tracheal stenosis from tumor was imitated in animals by plugs of paraffin or wax introduced into the upper mediastinal space. This was followed by dyspnea on inspiration, so-called stenotic breathing. The changes caused by long continued breathing of this type were studied by Nissen and found to correspond to those of aveolar emphysema and

true interstitial emphysema. Rigid enlargement of the thoracic space, from operation on the thoracic walls, did not lead to pulmonary emphysema. The results of the experiment thus spoke against the thoracogenic theory of the origin of emphysema. In animals in which large areas of the lung were excluded from function, a true interstitial emphysema developed in the functioning tissue after a considerable time. This compensatory emphysema is a consequence of chronically deepened breathing.

Operative Treatment of Gastric and Duodenal Ulcers.—Haberer finds that surgeons are no nearer than ever to unanimity on this question. He notes a recent tendency to conservatism on the part of some, notably, Bier, Küttner and Payr. The late results of gastro-enterostomy cannot, however, be satisfactory, although it is the best of the indirect methods from the standpoint of occurrence of jejunal ulcer, and it has its place, especially in the hands of the inexperienced surgeon when working under difficulties on a patient in a critical condition. Pyloric exclusion should be abandoned; it does not accomplish any more than does gastro-enterostomy and it is followed by jejunal ulcer in a much higher percentage of cases. Haberer has had no personal experience with Balfour's cauterization or with Kraske's transgastric excision of the ulcer, but he does not consider them of value. Radical operation must remove the antrum and the pylorus. He does not recommend carrying the resection further toward the cardia. By antrum he means all that portion of the stomach which contains pyloric glands. The extent of the antrum varies in different stomachs. Resection of the lesser curvature, carried to the point where the trunk of the arteria gastrica sinistra approaches the stomach wall from the lesser omentum, should include it. The only correct treatment of jejunal ulcer is its radical resection. In chronically recurring hemorrhage from ulcer, operation should be performed before anemia has caused irreparable harm. In acute hemorrhage, conservative treatment is safer, unless ulcer has previously been diagnosed with certainty. Perforation should be operated on without delay. In covered perforation treatment should be expectant until the symptoms have receded.

Operative Prospects of Cholelithiasis.—Anschütz's statistics indicate that older persons can be operated on for gallstones without great danger, if the operation is done in the interval, i. e., when neither icterus nor fever is present. The dangers of the operation lie not so much in the age of the patient or the long standing of the disease as in retention of bile and acute infection. His mortality statistics for the interval operation show that the sharp rise attributable to age does not set in until the sixtieth year, twenty years later than would appear from the general statistics for gallstone operations. In operation during the attack, the danger increases greatly with age. The new internal methods of treatment should be studied by the surgeon, for use before and after operation. He believes them particularly useful in treatment of postoperative recurrence. The advances in functional and roentgenologic diagnosis are of great promise.

Primary Chronic Appendicitis.—Payr discusses at length this disease, the existence of which is in dispute. For his own part, and speaking strictly from a clinical standpoint, he regards stasis of the contents of the proximal portion of the large intestine (from enteroptosis, kinking or adhesions) with widening of the lumen and slight, superficial inflammatory changes in the mucous membrane of the appendix as evidence of chronic inflammation; he does not see the necessity of assuming previous severe bacterial infection in the crypts. Because of the absence of a typical anamnesis and of a uniform clinical picture, the diagnosis is often confused—hence the 40 per cent of cases in which appendectomy did not bring relief. The roentgen ray is a valuable aid in diagnosis. (Four pictures are reproduced.) The blood picture should be studied. Where the diagnosis lies between chronic appendicitis and ptosis, treatment appropriate to the latter should solve the problem. Massage and athletics may be used as provocatives to clarify the diagnosis. Surgeons are disagreed as to the advisability of operation. Payr holds to the middle path, but counsels that every diagnostic means be exhausted before resorting to surgery. The advisability of removing the appendix on the occasion of other operations is discussed. Here, also, Payr avoids extreme views.

The Origin of Acute Appendicitis.—Ritter believes that in typical acute appendicitis gangrene precedes suppuration, that the latter is nature's effort to get rid of the dead tissue. He sees the origin of the gangrene in a defect of the mucous membrane caused by the friction of a fecal concretion, which has, perhaps, disappeared. Whether the next step in the process is the work of toxins or of bacteria, is uncertain; the latter seems more probable to Ritter.

Treatment of Hypertrophy of the Prostate with Injection of Animal Blood and Roentgen Rays.—Hintze describes the conservative treatment of aged patients with hypertrophied prostate in use in Bier's clinic. Series of roentgen-ray treatments are given, and between the first and second of each series 5 cc. (reduced to 3 or 2 cc. when the series is repeated) of ox, hog or sheep blood is injected slowly into the prostate, half of the dose into each half of the organ. The patient is in the lithotomy position during the injection and is afterward put to bed. The resulting pain is usually not great. The irradiations are given at two or three day intervals and number about eight. On each occasion two fields are exposed, a transverse field above the symphysis and a perineal field (hard filter, diameter of field 10 by 15 cc., focal distance 30 cm.); in case of vesical fistula above the symphysis, a vertical field, 6 by 8 cc., on each side of the median line, is irradiated. For each field the dose applied to the skin is 0.1 of the erythema dose. On the first sitting of the series the dose is doubled. In most cases, not more than three series are required. Nineteen cases are reported. Spontaneous micturition was achieved in all but three patients; these three had accustomed themselves to self-catheterization and could not be persuaded to give up the habit.

Influence of Diet on the Buffer Capacity of the Blood and on the Healing and Bacterial Content of Granulating Wounds.—This article, to which Sauerbruch contributes an introduction, represents researches carried on in the surgical clinic at Munich over a period of several years. The modern conception of acidosis and the physiologic regulation of the p_H of the blood are discussed and clinical experiments with diets are described. Herrmannsdorfer found that the acid-base metabolism of patients with wounds differs from that of healthy persons. Both locally, at the seat of inflammation, and in the blood and other body juices the reaction is displaced toward the alkaline side. The alkali reserve, however and therewith the buffer capacity of the blood, is lowered in wound healing. The buffer substances in the blood are diminished more in the case of suppurative than of aseptic wounds; the lowest values, however, are found after the infection has been overcome. It is evident that general, "compensated" acidosis and local, true acidosis should be looked upon as measures of defense and not as dangerous phenomena of intoxication. An acid diet lowers the buffer capacity of the blood and the p_H of the urine, of the wound secretion and of the saliva. An alkaline diet has the opposite effect. In patients on an alkaline diet, the conditions in the wound became worse, the suppurative processes extended and there were flare-ups in old foci. The secretion increased and the wound showed no tendency to diminish in size. With an acid diet the wound became smaller, the secretion diminished or ceased, the granulations took on a healthy appearance. With an alkaline diet the bacteria increased in number and variety. Besides streptococci and staphylococci, *B. proteus, B. pyocyaneus,* pseudodiphtheria bacilli, anaerobes, spore-bearing bacteria and *Sarcinae* were abundant. In the wounds of patients on an acid diet, the number and variety of bacteria decreased greatly; bacteria disappeared from the circulating blood of two gravely septic patients when the latter were placed on an acid diet.

Lead Poisoning from Retained Projectile.—Habs quotes two cases in which a splintered projectile or a bullet, remaining in the body, gave rise to lead poisoning years later. The first case was from the Franco-Prussian war; forty years intervened between the entrance of the lead into the body and the appearance of symptoms. The second case dated from the late war, and Habs notes that lead poisoning from bullets

received during this war are now becoming due and should be watched for by the physician. The literature is reviewed for similar cases and the chemical, pathologic and biologic aspects are considered. Internal remedies are of no use until the lead has been removed. Thereafter, potassium iodide is recommended.

Jahrbuch für Kinderheilkunde, Berlin

115: 315-388 (April) 1927

Familial Insufficiency of the Pancreas. A. Soecknick and F. Thoenes.—p. 315.
*Effect of Treatment of Congenital Syphilis on the Intelligence. K. Scheer and M. Stieler.—p. 332.
*Plasma Proteins in Scarlet Fever. B. Steiner.—p. 348.
Idem. I. A. Tüdös and P. Kiss.—p. 356.
Endocrine Formula in Children. I. M. Fertik et al.—p. 363.
Roentgen-Ray Sensitiveness of Infant's Skin. K. Schrutz.—p. 371.

Effect of Treatment of Congenital Syphilis on the Intelligence.—Scheer and Stieler found that energetic treatment of children suffering from congenital syphilis not only improved the general prognosis but also increased the percentage of mentally normal children.

Plasma Proteins in Scarlet Fever.—Steiner found a large amount of fibrinogen in the plasma at the onset of scarlet fever. This amount decreased gradually in uncomplicated cases. It increased in complications, sometimes preceding them by two days.

Klinische Wochenschrift, Berlin

6: 625-672 (April 2) 1927

Iodine and Action of Thyroid. I. Abelin.—p. 625.
*Active Substances in Muscle. G. Embden.—p. 628.
*Insulin-Thyroid Antagonism. M. Rosenberg.—p. 631.
*Peripheral Action of Epinephrine. E. Freudenberg.—p. 634.
*Cataract from Avitaminosis? M. Goldschmidt.—p. 635.
Syndrome of Syphilis. S. Bergel.—p. 637.
Biochemistry in Skin Diseases. Stümpke and G. Soika.—p. 639.
Kinetic Work of Arteries. Hasebroek.—p. 645.
Hemoglycosedimeter. E. Kaufmann.—p. 648.
"Open Puncture of Pleura." E. Brieger.—p. 650.
Reply. E. Leschke.—p. 651.
*Photosensitized Striated Muscle. F. Lippay.—p. 651.
*Endothelial Cells in Sepsis. J. Hammerschmidt.—p. 651.
Paraffinoma of the Breast. G. Körbler.—p. 652.
Infections of the Urinary Tract in Children. K. Kaspar.—p. 653.
The Psychiatric Dispensary. W. Zeller.—p. 655.

Active Substances in Muscle.—Embden finds that lactacidogen, which is identified now as hexosemonophosphoric acid, is split suddenly in the beginning of a muscular contraction. Since it is more dissociated than phosphoric acid, the hydrogen ion concentration decreases after the cleavage. A further increase in alkalinity is due to a simultaneous splitting of adenosin-phosphoric acid into ammonia and inosinic acid. Both substances are resynthetized, unless the muscle is overworked. The production of lactic acid occurs after the contraction and counteracts the alkalinity produced by the two processes mentioned above. It also enhances the restitution of lactacidogen. Embden believes that the lowered hydrogen ion concentration causes the contraction of the muscle. This is an exothermic physical process and is followed by chemical processes which recharge the muscle with energy. He intends to look in the nervous system for nucleotids as substratums of the excitation process.

Insulin-Thyroid Antagonism.—Rosenberg found that insulin does not markedly counteract a glycosuria induced by administration of thyroid or by exophthalmic goiter. The point of attack of both substances is apparently different. Nevertheless it is possible, by administration of thyroid to a diabetic patient, to provoke a glycosuria which can be controlled by insulin.

Peripheral Action of Epinephrine.—Freudenberg shows that intramuscular injection of epinephrine enhances locally the tetany provoked by hyperpnea and administration of sodium bicarbonate.

Alleged Cataract from Avitaminosis.—Goldschmidt repeated with Yoshimoto the experiments made by Szily and Eckstein. Differing from these authors, he believes that the cataract found in the rats is due solely to exposure of the eyes of the rats to a lower temperature. It disappears when the litter is warmed by the mother rat. The diet only prolongs the period during which this phenomenon can be produced in young rats.

Photosensitized Striated Muscle.—Lippay observed twitching and contracture of photosensitized muscles on exposure to light. Hematoporphyrin produced a stronger sensitization than any of the other substances that he used. Muscles thus sensitized contracted even in diffuse daylight.

Endothelial Cells in Sepsis.—Hammerschmidt isolated a strain of bacilli that is extremely virulent for mice. It causes scarcely any macroscopic changes, but all the endothelial cells of the blood vessels and the Kupffer cells are crammed with the bacilli.

Medizinische Klinik, Berlin

23: 463-500 (March 31) 1927

The Hormones of the Ovary and of the Anterior Lobe of the Pituitary. B. Zondek.—p. 463.
Duration of Action of Alcohol. G. Rosenfeld.—p. 466.
Increased Frequency of Pernicious Anemia. V. Schilling.—p. 467.
Diagnosis of Diseases of the Throat. G. Claus.—p. 472.
Psychotherapy. M. Serog.—p. 474.
Lisping. L. Stein.—p. 476.
*Rupture of Lungs from Dyspnea. K. Werwath.—p. 477.
Foreign Bodies in the Gastro-Intestinal Tract. P. Kissinger.—p. 479.
Leukocytes in Pernicious Anemia. J. Neuburger.—p. 480.
Tuberculosis, Enlarged Thyroid and Heart Trouble Due to Military Service. R. Menzel.—p. 485.
Extrapulmonary Tuberculosis. P. Tachau. Supplement.—pp. 1-38.

Rupture of Lungs from Dyspnea.—Werwath's patient had a laryngeal phlegmon. During the first stage of a tracheotomy (before opening the trachea) the patient lost consciousness, developed a mediastinal emphysema, and was kept alive by artificial respiration. The diagnosis of spontaneous bilateral pneumothorax was made the next day. His life had been saved by partial adhesion of one lung.

Münchener medizinische Wochenschrift, Munich

74: 531-570 (April 1) 1927

Protein Injection and Innervation of the Stomach. E. F. Müller and W. F. Petersen.—p. 531. Ct'd.
Early Rash in Tuberculous Infection of Children. A. Uffenheimer.—p. 535.
Curare in Parkinsonian Rigidity. V. Kairiukschtis and V. Kutorga.—p. 537.
Irritation of Vegetative System in Appendicitis. R. Klotz.—p. 538.
*Blood Sedimentation in Thirst. S. Ruf.—p. 542.
Pathologic Skin Reflex. H. Praetorius.—p. 543.
Current Potential in Superficial Roentgen Irradiation. V. Wucherpfennig.—p. 544.
Roentgen-Ray Picture of Gallbladder Diverticulum. T. Bársony.—p. 546.
Obstetric Malpractice. A. Döderlein.—p. 546.
*Treatment of Putrid Bronchitis. Litzner.—p. 547.
From a Medical Samaritan to a Medical Serf. M. Nassauer.—p. 548.
The Physician as Guardian of the Nation's Health. E. Abderhalden.—p. 550.

Blood Sedimentation in Thirst.—Ruf observed increased sedimentation speed of erythrocytes during thirst.

Treatment of Putrid Bronchitis.—Litzner's patient recovered from putrid bronchitis after six injections of neoarsphenamine given at ten to fourteen day intervals.

74: 571-618 (April 8) 1927

*Synthalin. P. Morawitz.—p. 571.
*Antimalarial Action of Quinine. G. Giemsa.—p. 574.
Bucky's Borderline Rays. H. Kirsch.—p. 578.
*Duodenal Tubage in Typhoid. N. Henning and A. Lechner.—p. 579.
*Dangers of Hysterography. K. Hellmuth.—p. 583.
Surgical Dressings. H. Schmidt.—p. 583.
Enhancement of Suppuration by Mercury. Stappert.—p. 584.
Psychogenic Vomiting. K. Ochsenius.—p. 585.
"Problems of Epidemiology." O. Lentz.—p. 585.
"Undernourished Children." Strauss.—p. 588.
*Protein Injections and Innervation of the Stomach. E. F. Müller and W. F. Petersen.—p. 588. C'cn.
Lister and Germany. M. von Gruber.—p. 592. C'cn.
Psychic Injury to Surgical Patients. K. Mermingas.—p. 593.
"Physician and Medical Man." E. Liek.—p. 594.
Marriage and the Family in Soviet Russia. A. Dworetzky.—p. 597.

Synthalin.—Morawitz observed only a few therapeutic failures with synthalin. Nevertheless he acquired the impression that it may injure the liver. Urobilinuria appears frequently. Besides this, the blood sugar level does not fall as

easily as with insulin. He confirms the fact that the digestive disturbances from synthalin may be counteracted by simultaneous administration of biliary salts.

Antimalarial Action of Quinine.—Giemsa believes that quinine is absorbed by the endothelial cells and transmitted by them to the parasites.

Duodenal Tubage in Typhoid.—Henning and Lechner found the bacilli in the bile in nineteen out of thirty-six typhoid and paratyphoid B patients. The method has no practical advantage over other bacteriologic methods.

Dangers of Hysterography.—Hellmuth's patient died from diffuse peritonitis after intra-uterine injection of 3 cc. of a contrast fluid for the purpose of hysterography. There had been no sign of suppuration of the tubes, which would have served as a timely warning against the injection.

Protein Injection and Innervation of the Stomach.—Müller and Petersen found that the stomach dilates and its movement ceases during the chill following an intravenous injection of a vaccine, peptone or protein. External application of cold, which also produces a chill, causes the same disturbance of the stomach. Periarterial sympathectomy made on the extremity exposed to the cold prevents this reflex. If the toxicity of the injected substances is great, the secretion of the stomach increases ten to twenty times, simultaneously with the dilatation, but does not necessarily contain any hydrochloric acid. Nausea and vomiting are common in this stage. This reaction is most pronounced after injections of a typhoid and colon bacillus vaccine or of living colon bacilli. They point out that the protein shock acts on the stomach indirectly by way of the nervous system. The action of foreign proteins occurs after their penetration into the tissues, in which they provoke a reaction. The reaction of the vegetative nervous system sometimes lasts longer than the cellular reaction. In the treatment of gastric ulcer, only an intramuscular injection of almost indifferent proteins (milk) should be used, which is sufficient for relaxation of the tonus. With more potent proteins and vaccines, and other ways of injection, the secretion of the stomach would increase. The action of the liver is also stimulated in the latter case and the temperature of the body rises, because the opposite reflex (vasoconstriction) occurs in the skin and prevents dissipation of the excess heat.

74: 619-658 (April 15) 1927

Surgery of Pulmonary Tuberculosis. F. Sauerbruch.—p. 619.
*Constitution and Tuberculosis. Naegeli.—p. 621.
Tuberculin in Treatment and Diagnosis. H. Selter.—p. 625.
Photochemical Significance of the Striae of Pregnancy. A. Mayer. —p. 627.
*Specific Adsorption Treatment. H. Bechhold and L. Keiner.—p. 631.
Dangers of Fencing, Boxing and Similar Sports. C. von Bramann. —p. 634.
Arsphenamine and Neurosyphilis. L. Spitzer.—p. 636.
Forward Shifting of the Shoulder and Gymnastics. Hasebroek.—p. 638.
"Blood Groups in Munich." S. Wellisch.—p. 639.
Idem. T. Fürst.—p. 640.
Cathodic and Roentgen Rays. A. Sommerfeld.—p. 640.
*"Christmas Fever." Stappert, Jr.—p. 642.

Constitution and Tuberculosis.—Naegeli declares that there unquestionably exists a difference in virulence in different strains of the human type of the tubercle bacillus. The outcome is decided by the constitutional differences of the patient. Exogenic conditional factors are most important, but genotypic characters also play a rôle. Since practically everybody becomes infected with tuberculosis, he believes that it would be better to speak of a predisposition to lethal tuberculosis than of a predisposition to tuberculosis in general.

Specific Adsorption Treatment.—Bechhold and Keiner discuss the purpose of adsorption treatment. Bechhold suggested distinguishing between the adsorption capacity (for dissolved substances) and the adhesion capacity (for corpuscular elements, such as bacteria). The ideal adsorbent should have a great power of adhesion and a selective power to adsorb toxic substances, but not digestive enzymes. They tested some combinations, which gave encouraging results.

"Christmas Fever."—Stappert uses this term for the numerous cases of malingering around the Christmas holidays. Since the social insurance premium is paid regardless of holidays, the malingerer receives as much money as if he were working.

Wiener klinische Wochenschrift, Vienna

40: 481-512 (April 14) 1927

*Diseases of the Tonsils in Children. F. Hamburger.—p. 481.
Antivirus. H. Lehndorff and M. Brumlik.—p. 483.
Action of Ergotoxin on the Heart. H. L. Otto.—p. 486.
*Toxins of Sepsis Streptococci. E. Herrmann and H. Heidler.—p. 488.
Healing in Pneumothorax Lung. F. Fleischner.—p. 492.
Protracted Intravenous Infusion of Sugar. K. Hutter.—p. 493.
The Skin as Organ of Defense. E. Finger.—p. 493. C'cn.
Surgical Indications in Diseases of the Ear. G. Alexander.—p. 496.
Biliary Type of Necrosis of the Pancreas. P. Walzel.—p. 498.
Psychology and Psychiatry. R. Allers. Supplement—pp. 1-20.

Diseases of the Tonsils in Children.—Hamburger points out that in inflammations of the pharyngeal tonsil the swollen lymph nodes are localized farther back (underneath the sternocleidomastoid) than in ordinary tonsillitis. Diphtheria should be assumed with a bloody purulent discharge from the nose, and is practically certain if there are also white spots in the pharynx. A tonsillitis plus hoarse voice suggests laryngeal diphtheria and should be treated accordingly, regardless of the results of a bacteriologic examination. An open mouth and oblique position of the head suggest pharyngeal abscess. It is well to delay, in the incision of a tonsillar abscess, unless the pus may be seen underneath the surface. He would not torture a child with tonsillitis by wiping off the tonsils. Such a procedure is only to be recommended, if coughing persists after whooping cough.

Toxins of Sepsis Streptococci.—Herrmann and Heidler had good results in treatment of sepsis with antitoxic serums obtained by a method similar to Dick's.

40: 513-544 (April 21) 1927

Problem of Sepsis. P. Saxl.—p. 513.
Aortic Hypertension. S. Wassermann.—p. 517.
Prevention of Scarlet Fever. E. Reich and J. Teichmann.—p. 521.
Diseases of Menisci. F. Mandl.—p. 522.
Poisoning by Plasmodin. K. P. Eiselsberg.—p. 525.
*Quinine in Diabetes. A. Löw and R. Pfeiler.—p. 526.
"Backache in Women." E. Meisels.—p. 527.
Writing Prescriptions. A. Mayrhofer.—p. 528.
Diet and Life Expectation. O. Porges. Supplement.—pp. 1-6.

Quinine in Diabetes.—Löw and Pfeiler found a lowered blood sugar and, as a rule, a decreased amount of ketone substances after intravenous injection of 0.5 Gm. of quinine.

Zeitschrift für Krebsforschung, Berlin

24: 489-607 (April 8) 1927

Insulinoid in Cancer Tissue. A. H. Roffo and L. M. Correa.—p. 489.
Epithelial Proliferation in Aseptic Inflammations. W. G. Garschin. —p. 492.
Pyrogenic Action of Cancer. J. von Darányi.—p. 512.
*Heterotransplantation of Malignant Tumors. G. Roskin.—p. 515.
Action of the Electric Current on Cancer Cells. E. Delbanco.—p. 524.
*Action of High Oxygen Pressure on Mouse Cancer. A. Fischer et al. —p. 528.
*Cancer Treatment as Physico-Chemical Problem. E. B. Andersen and A. Fischer.—p. 563.
*Natural Immunity to Rous Sarcoma. A. Fischer.—p. 580.
Campaign Against Cancer in Jugo-Slavia. J. Cholewa.—p. 604.

Heterotransplantation of Malignant Tumors.—Roskin obtained growth of chicken sarcoma in mice that had been injected with ferrum oxidatum saccharatum. A piece of this tissue taken on the sixtieth day, and regrafted into fowls produced a sarcoma, but of a somewhat slower growth. Heterogenetic transplantation of adenocarcinoma of mouse or man into fowls induced the formation of tumors that resembled lymphosarcoma.

Action of High Oxygen Pressure on Mouse Cancer.—Fischer, Buch Andersen, Demuth and Laser kept cancer mice for twenty-two hours in oxygen under a pressure of 1.6 atmospheres or for fourteen hours under 2 atmospheres. Certain of the animals were injected besides with various preparations intended to act as catalyzers of oxidation. Some of the animals were cured by the oxygen alone, but the results were considerably improved by the combined treatment (around 20 per cent improvement). They emphasize

the fact that it is a long way from these experiments to attempts to influence cancer in man.

Cancer Treatment as Physico-Chemical Problem.—Buch Andersen and Fischer discuss the physical and chemical aspects of cancer therapy, especially with oxygen. They mention similar theoretic possibilities with other gases, especially hydrogen.

Natural Immunity to Rous Sarcoma.—Fischer found that Rous chicken sarcoma may be cultivated in the plasma from naturally immune chickens or from birds or rabbits that have been immunized. All these immune serums inhibit in vitro the effect of the filtrable agent of Rous sarcoma. The plasma of about 40 per cent of chickens has this property normally. The transplanted sarcoma takes in such animals only if its cells are not destroyed. This shows that humoral immunity alone is not sufficient to prevent the growth. About 1 per cent of the chickens are, apparently, absolutely immune —against the filtrable agent of the sarcoma as well as against the cells.

Zeitschrift für Kreislaufforschung, Dresden

19: 233-264 (April) 1927

Primary Sarcoma of the Heart. A. Matras.—p. 233.

Klinicheskaya Meditsina, Moscow

5: 73-140 (Jan.) 1927. Partial Index

Alcohol in Nerve Surgery. V. I. Razumovskiy.—p. 73.
Treatment of Posttyphoid Endochondritis. S. K. Solovieff.—p. 91.
Exploration of Erythropoietic Activity of Bone Marrow. N. A. Shvarobovich.—p. 98.
*Method for Treatment of Ischuria. E. I. Kvater.—p. 117.

New Method of Treating Postoperative or Postpartum Retention of Urine.—Kvater suggests a method which he has used for the last two years in cases of retention of urine, after operation or childbirth. The desire for micturition is absent, although the amount of the urine in the bladder is large. This condition is due to atony of the detrusor urinae muscle associated with spasm of the sphincter vesicae. The treatment is based on the theory that increase of intravesical pressure may cause the bladder to contract. The method is as follows: when the retention of the urine has persisted for twelve hours, the bladder is catheterized and a disinfecting liquid is introduced. The quantity of the liquid must exceed by from 150 to 200 cc. that of the urine removed. The liquid is usually spontaneously expelled, and normal micturition then takes place. If the first injection remains without effect, from 60 to 100 cc. more of the liquid is introduced. Rupture of the bladder did not occur in any case. The method succeeded in cases in which other measures failed.

Profilakticheskaya Meditsina, Kharkov

6: 1-195 (January) 1927. Partial Index

Etiology, Epidemiology, Prophylaxis and Serotherapy of Scarlet Fever. S. I. Zlatogoroff.—p. 9. C'td.

6: 1-174 (February) 1927. Partial Index

Etiology, Epidemiology, Prophylaxis and Serotherapy of Scarlet Fever. S. I. Zlatogoroff.—p. 12. C'cn.
*Resistance of Erythrocytes to Quinine. A. Voinik.—p. 20.

Lytic Action of Quinine on Erythrocytes in Malaria.—Voinik refers to his previous researches, showing that the favorable action of quinine in malaria consists in dissolution of the damaged erythrocytes and consequent falling off of the plasmodia. The plasmodia are then destroyed by the corresponding lysins of the blood serum. He further studied the influence of various substances and conditions on the hemolytic property of quinine. Test tubes were filled with a 0.5 per cent solution of sodium chloride mixed with quinine hydrochloride, in various concentrations. A drop of the blood to be examined was added to the tubes. There was evidence that in normal conditions the erythrocytes of children are less resistant to the action of quinine than are those of adults. In malaria the hemolytic action of quinine is in inverse proportion to the content of sodium chloride in the blood. Rise of temperature increases the hemolysis, thus justifying the administration of quinine three or four hours before the expected paroxysm of malaria; alcohol and ammonia enhance the hemolysis considerably. Stress is laid on the fact that in treatment of malaria the amount of sodium chloride in the blood should be taken into consideration.

Vestnik Mikrobiologii i Epidemiologii, Saratov

6: 3-135 (1927). Partial Index

Scarlet Fever Streptococci Isolated in the Epidemic of 1925-1926. E. Korobkova and S. Mitin.—p. 19.
*Influence of Cytotoxic Serum on Development of Cancer. A. Bogomolets and I. Neiman.—p. 33.
Note on Experimental Gonorrhea. Z. Osipova and A. Ukhin.—p. 86.

Stimulating or Blocking the Reticulo-Endothelial System and Its Effect on Development of Cancer.—Bogomolets and Neiman inoculated 342 mice with an emulsion of adenocarcinoma. A series of these animals were injected simultaneously with cytotoxic rabbit serum, another series with ordinary rabbit serum. The controls were inoculated only with the emulsion. Large doses of any of the serums were found to favor the development of cancer, probably by paralyzing the active macrophages in the connective tissue. Small doses of serum stimulated the resistance of the connective tissue, reducing markedly the percentage of tumors that developed in the animals. The prophylactic action of the ordinary serum was much weaker than that of the cytotoxic serum. The "cancer diathesis" consists in reduced defense of the organism against the disease, determined by the condition of the connective tissue. Researches are being carried on to test the curative action of the cytotoxic serum, also to establish the histologic changes induced by the serum in the mesenchyma.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

71: 1413-1536 (March 19) 1927

Clinical Results with Synthalin. B. Sybrandy.—p. 1418.
*Bleeding Nipple. J. G. Kopp.—p. 1431.
*Swine Erisipelas in Man. C. Schaap.—p. 1447.
*Bilateral Absence of the Thumb. A. J. P. van den Broek.—p. 1452.

Bleeding Nipple.—Kopp analyzes twenty-two cases of bleeding nipple. Pathologic examination was made in twenty, and showed that in nine the cause was intracanalicular papilloma, in nine others chronic cystic mastitis, in one a combination of the two, and in one precarcinoma. In sixteen the secretion from the nipple was the only symptom. In nearly all it resembled venous blood in appearance; in some the discharge had at first been serous, and had gradually become bloody. He does not approve of conservative treatment, but he does not believe that the typical radical operation, as for carcinoma, is necessary, unless, of course, carcinoma is suspected. In younger women, if swelling is absent, he exposes the posterior surface of the mammary gland by a latero-inferior incision, and, according to the information obtained by inspection and palpation, performs either partial extirpation or subcutaneous enucleation of the gland. In older patients, he advises removal of the entire breast.

Swine Erysipelas in Man.—Schaap has had three cases of swine erysipelas in human beings in the last two years. In all the infection could be traced to the slaughtering of a sick hog. The animal responsible for the last two cases had been sick only one day, and was thus in the prodromal stage. In all three cases cure was effected by serum from animals with the disease. In one patient, in whom the disease had reached the generalized stage, 40 cc. was injected; in the other two, treated earlier, 20 cc.

Bilateral Absence of the Thumb.—In the case here reported, there were no signs that even a rudimentary thumb had ever existed on either hand. Otherwise, the skeleton did not present any congenital abnormalities. The subject, a girl, aged 23, is able to do all kinds of housework, writing and sewing as well and as rapidly as persons with normal hands.

Hygiea, Stockholm

89: 273-320 (April 15) 1927

*Chemical Warfare. H. Westermark.—p. 273.
*Strumectomy. A. Troell.—p. 290.
A Statistical and Serologic Study of Cancer. L. Wolff.—p. 312.

The Most Important War-Gases and the Diseases Caused by Them.—After a short historical outline Westermark divides the gases into different groups, each of which causes its special disease with characteristic symptomatology and anatomic pathology and demands its own treatment. The two most important are the lung-irritating and the blister-causing gases. To the first group belong chlorine, chlorpricrine and phosgene. They cause edema of the lung. The hemoglobin may be increased to more than 120, the red blood cells to over 9,000,000. To prevent the pulmonary edema emetine chloride should be given subcutaneously. Stimulants, such as caffein and camphor are indicated. The next group is the vesicant. To this belong mustard gas and "Lewisite." The first was used during the World War. The last has not yet been employed in war. Mustard gas is very poisonous, even in small amounts and cannot be detected by the sense of smell. It easily penetrates ordinary cloth. The pathologic-anatomical changes are many. "Lewisite" is a heavy oily fluid. It is resistant. A fatal dose on the skin is 1.5 cc.; it causes burns and arsenic poisoning. As a remedy benzyl alcohol, 100 Gm.; ethyl alcohol, 95 Gm., and glycerin, 4 Gm., is recommended.

Strumectomy.—Troell reviews his total material of 337 cases. Of these, 193 were clinically toxic and 144 atoxic. The mean value of the basal metabolic rate on admission of the patient to the hospital was in cases of diffuse exophthalmic goiter approximately + 55 per cent, the corresponding figure for adenomatous toxic goiter was + 34 per cent. Of patients with diffuse exophthalmic goiter in whom the basal metabolic rate was determined, it was + 50 per cent on admission in forty-five; more than 50 in forty-nine; in thirty-one cases it was not determined before operation. By treatment with Lugol's solution, insulin, or bromium-quinine-phosphorus-calcium, and rest in bed, it was considerably reduced before the operation was undertaken. None of the cases with a basal metabolic rate of + 30 per cent or less, died from the operation. Of the patients with toxic goiters about 85 per cent recovered completely after the operation. In patients with diffuse goiter preoperational treatment with Lugol's solution is valuable for temporarily reducing the thyrotoxicosis. Should rest in bed in a hospital and treatment with Lugol's solution, controlled by determinations of the basal metabolism and weighing, not result in improvement in the basal metabolic rate, body weight, tachycardia, etc., in, at the most, four weeks, the case is probably so highly toxic as to exclude the possibility of a good result from thyroidectomy.

Norsk Magazin for Lægevidenskapen, Christiania

88: 233-344 (April) 1927

Suspension-Stability of the Blood in Tuberculosis of the Lungs. O. Stub. —p. 233.
*Tuberculosis of the Knee Joint. R. Ingebrigtsen.—p. 271.
*Influence of Malaria on Gonorrhea. J. Cammermeyer.—p. 280.
*Cholelithiasis. F. Roscher.—p. 281.

Mobilization of Tuberculous Ankylosis of the Knee Joint.—The patient was a woman, aged 21. Both knee joints were bent at a right angle; in the right there was bony ankylosis, in the left fibrous ankylosis. The right ankle was stiffened at an acute angle. She could move only on crutches. The angulation of the right extremity was corrected by resection, the right foot was placed in correct position by astragalectomy and the ankle joint was given normal mobility. The left knee was mobilized, the fibrous deformities and a thin section from the articular cartilage were removed, and the articular surfaces placed in correct position and covered with free fascia lata. The result was good. The patient can walk with a cane. No complications have occurred in three years. In the literature eight cases of attempted mobilization of a knee joint, ankylosed in the course of tuberculosis, are reported, with good results in six. Ingebrigtsen thinks that mobilization is indicated if one or both joints are ankylosed in flexion, if the tuberculous process has stopped and the general health of the patient is good.

Influence of Malaria on Gonorrhea.—Cammermeyer assumes that the influence of malaria upon gonorrhea is only temporary and that it is not a specific remedy for gonorrhea; its occasional temporary influence is attributable to the height of the fever.

Two Cases of Multiple Gallstones.—Case 1 was in a woman, aged 47. Six years ago she began to feel pains under the right breast. Epigastralgia followed. During the following year she felt well, but had to be on a diet. Aug. 30, 1926, she had an attack of severe pain. This recurred on September 21, and three large stones were found in the feces. On the following days several stones appeared in the stool and on October 14 sixty-two stones were found. The total number was 190. On October 20 the gallbladder was removed; it was as large as a goose egg and contained about 100 stones and some normal bile. The cystic duct was wide open. The hepatic duct was also open; it did not contain stones. Case 2 was in a woman, aged 43. This patient had had indigestion for about ten years. In October, 1926, she suffered from severe pains in the epigastrium. On October 19 thirteen stones of different sizes were found in the feces and on the 27th of the same month forty-six stones. The urine did not contain bile or albumin. The patient has been well since and there has not been a recurrence of gallstones in the stool.

Svenska Läkaresällskapets Handlingar, Stockholm

52: 41-104, 1926

Thirty Years' Practice of Massage. F. Lindskog.—p. 81.
*The Bolz Reaction. K. Loberg.—p. 99.

The Bolz reaction (the Acetic Anhydride-Sulphuric Acid Test.) — Loberg examined 55 spinal fluids, eleven of which belonged to the dementia praecox group. The reaction was positive in all. He will not express any decided opinion on a matter of which Bolz is quite sure, i. e., that the intensity of the reaction parallels the activity of the syphilitic process. As the reaction was also usually positive in relatively acute cases of dementia praecox in other experiments, Loberg believes that there is a causative connection. Through the brain biochemism, which has certainly suffered grave injury in the active stages of the disease, it is likely that some of the abnormal products are washed down in the cerebrospinal fluid and that something of this nature is the basis of the reaction. That the same substances appear in paralysis and in neurosyphilis, possibly also in other diseases of the brain, does not contradict this theory. The same abnormal products may be formed by various diseases, of which the diazoreaction is a typical proof.

Ugeskrift for Læger, Copenhagen

89: 313-338 (April 21) 1927

*Fermentative Dyspepsia. H. C. Gram.—p. 313.
*Treatment of Diabetes with Synthalin. J. N. Lorenzen.—p. 322.
A New Method of Staining Blood Films. A. Nyfeldt.—p. 325.
Criminal Psychiatry. A. Wimmer.—p. 327.

89: 339-364, (April 28) 1927

Injury by Electricity. J. Fog.—p. 339.
Chronic Encephalitis. H. I. Schou.—p. 343.
The Quantity of the Excreted Urine. E. Faber.—p. 351.
Problems of Social Medicine. J. Kuhn.—p. 355.

Fermentative Dyspepsia and Its Chemical Picture.—Gram carried out a series of investigations, but these do not give any positive answer as to the etiology and the pathogenesis of fermentative dyspepsia. A rational dietetic treatment effects, as a rule, considerable improvement and often apparent recovery. Medical treatment plays only a secondary part. All starches should at first be forbidden; after a time they may gradually be added to the diet. If there is diarrhea tannalbin or bismuthsubsalicylate should be given; if constipation, liquid petroleum and oil enemas.

Treatment of Diabetes with Synthalin.—Lorenzen is of the opinion that in its present form synthalin cannot be recommended, as the effect of the doses that can be given is too slight and the inconveniences are greater than the advantages. In mild cases, that can be treated by diet alone, synthalin is not needed and in severe cases it cannot replace insulin.